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Cover

The cover reproduces an oil-on-canvas painting by "Andy," ca. 1970. In early October 1973, the U.S. Sixth Fleet, with USS Little Rock *(CG 4) as flagship, mobilized in the eastern Mediterranean during that year's Arab-Israeli war, also known as the Yom Kippur War. A Soviet fleet in the same area created a potential for the localized war to escalate, so Chief of Naval Operations Admiral Elmo R. Zumwalt Jr., USN, ordered the American ships to move westward to reduce the potential for provocation. In "The Transformation of the Israel Defense Forces," Avi Jager traces the challenges and fortunes of the Israel Defense Forces following the 1973 conflict, especially with regard to low-intensity conflict with nonstate actors, and discusses the changes made to its various branches, units, and armaments to operate better in the modern environment.*

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CONTENTS

Operational Art

The French army's 1940 campaign was disastrous, whereas the U.S. Marine Corps cracked the problem of making an opposed amphibious landing, keying victory over imperial Japan. But despite these military organizations' different approaches, a closer examination reveals that the two services shared more in common in the problems they faced and the answers they developed than their operational results suggest.

Allied Navies

Recently declassified British records reveal London's misgivings about America's 1987 reflagging and escorting of Kuwaiti tankers amid the Iran-Iraq War. This early case study illustrates the challenges of conducting coalition warfare in the Middle East, even with a close, cooperative partner. National-level differences revealed surmountable fissures in coordinating naval strategies and operations, yet the benefits of the relationship justified the friction encountered.

FROM THE EDITORS

The geostrategic picture in the Middle East has been transformed fundamentally over the last several years by the rapprochement between Israel and the Arab world, midwifed by the Trump administration in a series of unexpected diplomatic coups. The ramifications of these developments have only begun to play themselves out and to be assessed adequately by observers. Surprisingly little attention seems to have been paid to their impact on the Israeli military. In "The Transformation of the Israel Defense Forces," Avi Jager provides a concise but comprehensive account of the significant changes that have occurred throughout the IDF in recent years, one informed by authoritative, high-level sources within Israel. These changes include major reductions in the conventional arms, particularly infantry and armor, and increased emphasis on unconventional forces and cyber; they reflect a conviction that in the future the threat the nation likely will face no longer will come from states but rather from irregular organizations such as Hamas. And, perhaps most importantly, they signal a shift from the long-standing Israeli preference for offense and preemption toward a more defensive orientation. Jager makes clear, however, that there are voices in Israel that question the wisdom of such a shift. Avi Jager is a reserve officer in the IDF special forces.

The eastern Mediterranean as an arena of sea-power competition has been lost from view since the end of the Cold War and the withdrawal of the U.S. Sixth Fleet in its aftermath. Times are changing. It recently was announced that, for the first time in forty years, an American naval vessel will be based at Souda Bay in Crete. Greece and Turkey are at odds over territorial maritime claims, and the discovery of enormous natural gas deposits in the waters off Cyprus in recent years has opened up a complex face-off among Turkey, Greece, Cyprus, and Israel. In this context, the question of Israel's relation to the sea takes on major strategic significance. In "Cultural Challenges for Israeli Sea Power in the Eastern Mediterranean," Samuel Helfont provides a fascinating overview of the State of Israel's cultural attitudes toward the sea, as limited by its deeply felt connection with the "Land of Israel." He argues that Israel has yet to make the fundamental cultural turn toward its clearly ordained strategic maritime future. Samuel Helfont is a Naval War College professor teaching at the Naval Postgraduate School in Monterey, California.

The centrality of culture in developing a state's maritime orientation is also the theme of Andrew Rhodes's "The 1988 Blues: Admirals, Activists, and the Development of the Chinese Maritime Identity." Rhodes points to 1988 as a decisive year in the turn to the sea of the People's Republic of China, witnessing as it did two unrelated but important developments: the airing on Chinese television of the six-part documentary *River Elegy,* which became wildly popular, and the beginning of the PRC's commercial and military expansion into the South China Sea. Strikingly, the young filmmakers who produced the series were prodemocracy activists who fled the country after the Tiananmen massacre of the following year, while not all members of the Chinese leadership at the time were happy with the criticisms the documentary had expressed over the country's past neglect of its maritime frontier. Andrew Rhodes is a professor in the China Maritime Studies Institute at the Naval War College.

To grasp the full magnitude of the maritime challenge posed by the People's Republic of China to the United States and its allies, it is essential to look beyond the purely naval dimension. In "The Middle Kingdom Returns to the Sea, While America Turns Its Back: How China Came to Dominate the Global Maritime Industry, and the Implications for the World," Christopher J. McMahon issues a stark warning about the consequences of the U.S. government's continuing virtual abandonment of the commercial maritime industry. The Chinese have made no secret of their ambition to dominate this industry with regard to commercial shipbuilding as well as infrastructure construction around the world (the so-called Belt and Road Initiative), and they are well on their way to doing so—the number of large private corporations in this business continues to shrink at an alarming rate. The consequences are not merely economic but also political and strategic. Christopher J. McMahon holds the Maritime Administration Emory S. Land Chair of Merchant Marine Affairs at the Naval War College.

How military organizations adapt to the (real or supposed) lessons of battle remains a matter of great interest to military historians and practitioners alike. Ethan Rafuse, in "One Approach, Two Results: The French Army, the U.S. Marines, and the Frontal Assault during the World Wars," lays out what at first seems an improbable comparison between French battle tactics in the two world wars and the Marine Corps's approach to amphibious warfare during the Pacific War. In neither case, he argues, was maneuver warfare an option; the challenge was rather that of finding the proper balance of artillery and infantry assets employed in frontal assaults. While not denying that French performance suffered in both wars from doctrinal rigidity, he suggests that the conventional wisdom fails to account for France's eventual success in World War I. As for the Marines, he argues that their well-deserved reputation for doctrinal innovation enabled them to learn from initial mistakes in ways not altogether dissimilar to what the French

army did in that conflict. Ethan Rafuse is a professor of military history at the U.S. Army Command and General Staff College.

Finally, in "London and Washington: Maintaining Naval Cooperation despite Strategic Differences during Operation EARNEST WILL," Richard A. Mobley offers a fine-grained case study of coalition operations—specifically, the uniquely intimate U.S.-U.K. alliance relationship in the Persian Gulf during the reflagging and protection of Kuwaiti oil tankers in 1987, toward the end of the Iran-Iraq War. This analysis, based primarily on recently declassified material from British archives, shows the extent to which differing perceptions and interests can complicate alliance relationships and should require a more sophisticated approach to such relationships than has been the norm, at least on the U.S. side. Richard A. Mobley is a former intelligence officer in the U.S. Navy.

Rear Admiral Shoshana Chatfield is the fifty-seventh President of the U.S. Naval War College and a career naval helicopter pilot. A native of Garden Grove, California, she graduated from Boston University in 1987 with a bachelor of arts in international relations and French language and literature. She received her commission through the Naval Reserve Officers Training Corps in 1988 and earned her wings of gold in 1989. Chatfield was awarded the Navy's Political/Military Scholarship and attended the Kennedy School of Government, receiving a master in public administration from Harvard University in 1997. In 2009, the University of San Diego conferred on her a doctorate of education in leadership studies.

PRESIDENT'S FORUM

AS I WRITE THIS COLUMN, we have reached the one-year anniversary of the COVID-19 pandemic, which has impacted people, families, organizations, and societies significantly worldwide, including here in Newport, in Monterey, and in the Navy's many other dispersed distance-learning environments. I continue to be amazed by the flexibility and creativity of our students, faculty, and staff, who have adapted so well to ensure that the College has been able to continue to execute effectively its education, research, and outreach missions. The College's value and contribution to the entire Navy / Marine Corps enterprise continue to be recognized, and I thought I would highlight several initiatives that demonstrate the College's relevance and significance to the maritime services' future success.

Most recently, in January 2021, the Chief of Naval Operations (CNO) released his Navigation Plan (NAVPLAN) that charts the course for how the Navy, Marine Corps, and Coast Guard will execute the *Tri-Service Maritime Strategy*. The NAVPLAN outlines the challenges the nation and the Navy face, the Navy's unique role in meeting those challenges, and the four priorities that will focus the Navy's efforts. These priorities are identified as Readiness, Capabilities, Capacity, and Our Sailors. The educational, research, and outreach expertise of the Naval War College (NWC) is vital to meeting the challenges delineated in the NAVPLAN, particularly in the areas of Capabilities enhancement and Sailor development. The complete NAVPLAN can be found by searching "Navy NAVPLAN 2021" using any search engine. There is much to learn from its fifteen skillfully written pages!

During calendar year 2020, a major reorganization within the CNO's staff resulted in the establishment of the position of Deputy Chief of Naval Operations

(DCNO) for Warfighting Development (known as N7). The DCNO (N7) directs the development of Navy strategic concepts by applying strategic guidance, aligning strategic activities, and prioritizing analytic efforts. The goal is to improve the Navy's ability to develop warrior-scholars and war-fighting ideas and to deliver war-fighting advantage. Of particular interest to all of us at NWC is the defined mission to "align the naval education enterprise with strategy and improve how the Navy utilizes its flagship educational institutions." We are working closely with key leaders within N7 to refine our educational and research products to serve the Navy's needs better. The College also is being tasked to play a leading role in providing higher-fidelity, decision-quality information to Navy leadership.

All of us are aware that many key decisions must be made in the near term to shape the Navy of the future. To this end, the Office of the CNO (OPNAV) Warfare Development Division (N72) has developed a naval Analytic Master Plan (AMP) as an enterprise-level means of supporting informed decisions by the CNO and other senior leaders. By following the AMP, all key stakeholders will be kept apprised of the full range of analytic tools (such as war games, exercises, fleet experiments, modeling and simulation, etc.) that Navy commands and organizations are using to evaluate new technologies, techniques, platforms, weapons, and other potential solutions to emerging challenges. The AMP has the following seven main "pillars":

Intelligence—led by the Office of Naval Intelligence

Studies—led by OPNAV N72

Exercises—led by Fleet Forces Command

Fleet Experiments—led by the Navy Warfare Development Command (NWDC)

Test and Evaluation—led by the Operational Test and Evaluation Force

Modeling and Simulation—led by OPNAV N81

Wargaming—led by NWC

The primary purpose of the AMP is to bridge gaps and identify redundancies in naval analysis that have occurred previously owing to the lack of an overarching coordinating structure and inadequate information sharing and knowledge management.

As the Wargaming Pillar Lead, NWC is spearheading efforts to integrate all research activities within the naval wargaming enterprise and facilitating the promulgation and integration of research findings across the naval analytic community. The goal of this integration is to create a faster-learning organization that produces the high-fidelity information our leadership needs to make critical

decisions in a time- and resource-constrained environment. Our partners in this effort include NWDC, the Naval Postgraduate School, the Marine Corps Warfighting Lab, the systems commands (e.g., the Naval Undersea Warfare Center), and the Office of Naval Research.

I am happy to report that rapid progress has been made in meeting the goals of the AMP. In February 2021, NWC hosted a virtual, two-day event to launch a series of recurring discussions within the Wargaming Pillar and across the analytic pillars of the naval enterprise. This research summit convened more than a hundred stakeholders, all of whom are working toward a shared understanding of the total capacity for gaming within the maritime services. They embody the wide range of capabilities available to support the CNO, the Commandant of the Marine Corps, and fleet commanders. In addition, this first summit addressed opportunities for collaboration and research integration in support of a long-term, analytic campaign that addresses future-force design.

The impressive amalgamation of talented and dedicated gamers will convene for a second summit in late March 2021 to refine the governance of the Wargaming Pillar and agree on issues such as the need for a recurring call for research, prioritizing problems for examination, allocating scarce wargaming capacity, and scheduling analytic events. Additionally, the second summit will introduce a new Title 10 war game on future-force design that will nest within an extended (eighteen-month) campaign of analysis across the AMP. This research approach will be both iterative and integrated and will draw from all corners of the research enterprise to provide high-fidelity analysis for use by senior decision makers.

As noted, one of the primary challenges the CNO faces relates to future-force design, and the AMP will integrate the efforts of the overall Navy research community to inform CNO guidance and decisions. Since one of NWC's principal missions is to "define the future Navy and its associated roles and missions," the College is well positioned to contribute to this effort. The research, analysis, and gaming conducted here in Newport produce focused, forward-thinking, and timely research that anticipates future operational and strategic challenges, develops and assesses strategic and operational concepts to overcome those challenges, assesses the risk associated with these concepts, provides analytic products that inform the Navy's leadership, and helps shape key decisions about the design of the future fleet and other strategic challenges.

As I mentioned in the opening paragraphs of this column, NWC has done remarkable work under the constraints brought about by the pandemic response. In the summer of 2020, the Strategic and Operational Research Department within the Center for Naval Warfare Studies (CNWS) supported an effort by OPNAV N81 to identify key components and capabilities of the future naval force in response to direction from the Deputy Secretary of Defense. This project

laid the foundation for NWC to develop a long-term "arc of research" that will be undertaken over the next several years to gain a deeper understanding of the technologies, capabilities, and requirements the Navy will need to deter, defend against, and defeat potential adversaries in the future.

Another demonstration of our College's expertise in executing complex games was CNWS's exceptional conduct of the Northwest Pacific (NWPAC) War Game 2021. The wargaming team expertly designed and executed a distributed, classified war game with Seventh Fleet and our Japan Maritime Self-Defense Force allies. Breaking new ground in areas of collaboration across CNWS and the College, as well as pushing the technology to execute a distributed game across fourteen time zones, NWPAC 21 set new standards that will influence all war games going forward. Commander, Seventh Fleet reported that the game yielded a significant number of actionable issues on which U.S. and Japanese navy commands already are beginning to work. This distributed game was designed to reduce the risk of transmitting COVID-19, and required the support of many people to send two key team members to Japan safely.

Over the past two years, CNWS has been reshaping its approach to research and analysis by realigning efforts, strengthening internal collaboration, hiring and aligning faculty, and establishing partnerships across the enterprise in anticipation of the emerging analytic requirements of the fleet and the CNO. These initiatives, coupled with the foundational work accomplished by the center, have poised NWC to lead the Wargaming Pillar and to make major contributions to the AMP and the research enterprise.

In his closing comments in the 2021 NAVPLAN, CNO Admiral M. M. Gilday, USN, told all hands, "I am counting on you to take in all lines and get us where we need to go—and do so at a flank bell!" Be assured, the Naval War College is ready, willing, and able to do so!

SHOSHANA S. CHATFIELD
Rear Admiral, U.S. Navy
President, U.S. Naval War College

Dr. Avi Jager is a junior visiting fellow at the International Institute for Counter-Terrorism in Herzliyya, Israel. He completed his PhD in the War Studies Department of King's College London. A reservist, Major Jager served as a team commander and deputy company commander in the IDF special forces.

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THE TRANSFORMATION OF THE ISRAEL DEFENSE FORCES

Avi Jager

Over the past decade, Israel's military—the Israel Defense Forces (IDF)—has enacted major changes to its structure and war-fighting priorities. Infantry, armor, and artillery forces have been reduced and ordered to implement structural and doctrinal changes to make them more relevant to anticipated future conflicts against Hamas and Hezbollah. Naval and air forces expanded their unconventional capacities at the expense of their conventional-warfare capabilities. Equally important, while Israel has allocated vast resources toward strengthening its defensive formations, the IDF has prioritized expanding cyber and intelligence units above all others.

The driving forces behind these changes were the rise of nonstate adversaries, the declining threat from neighboring nation-states, and groundbreaking innovations in military technology. The implications of this transformation for Israel's security and military preparedness are potentially severe. Hamas and Hezbollah have kept developing new ways to challenge Israel actively, which has responded principally by developing defensive measures to protect against these new threats rather than engaging with the sources of those threats offensively. Nonetheless, contending with the existential threats Israeli security experts foresee on the horizon—a multifront war with hundreds of thousands of missiles and rockets targeting Israeli population centers—could require deploying ground forces to capture areas in the Gaza Strip, southern Lebanon, Syria, and perhaps even Iraq and Iran. Since the IDF ground forces have been reduced, deprioritized, and neglected, they will encounter much greater difficulty achieving those objectives.

This article uses interviews with IDF intelligence analysts, security researchers, and past and present defense ministry personnel to present a comprehensive survey of these changes and reforms across the IDF, their sources, and their

operational implications. Among the interviewees were the alternate prime minister of Israel, Lieutenant General (Ret.) Benjamin (Benny) Gantz, former defense minister and chief of general staff Lieutenant General (Ret.) Moshe Ya'alon, and former IDF comptroller Major General (Ret.) Yitzhak Brick. In addition, ten IDF intelligence analysts and commanders of varying ranks and specializations were interviewed. The remaining data were collected from official publications of government agencies, military publications, archival materials and protocols, and over one thousand testimonies of IDF soldiers and reservists.

THE SOURCES OF IDF TRANSFORMATION

The primary reason for the IDF's transformation was a deliberate decision by Israel's political and military leadership to strengthen the country's defensive formations, prioritize cyber and intelligence capabilities, and implement structural and methodological changes to make the IDF more relevant to future wars with nonstate actors such as Hamas and Hezbollah. Benny Gantz, who currently serves as Israel's alternate prime minister and who led the IDF during this transformation period as chief of general staff, explained its rationale as follows:

> [T]he purpose of [these changes] was to create a smaller yet deadlier army, capable of confronting non-state adversaries in complex environments and on multiple fronts. . . . The ability to be a smaller yet deadlier military depends primarily on the ability to obtain accurate intelligence, process and analyze it effectively, and transfer it to the combat forces in real time. . . .
>
> I am saying, unambiguously, that I prioritized cyber and intelligence over infantry and armor . . . [;] unlike the threat of ground invasion, the threat of cyber is realistic.[1]

Indeed, Israel's political consensus is that the last conventional military threat to Israel, the Syrian state, evaporated almost entirely during the civil war that began there in 2011. Until then, Israel had considered a conventional war with Syria to be a likely conflict scenario. Unlike Jordan and Egypt, Syria never signed a peace agreement with Israel, nor did it establish any diplomatic or economic relations. Syria confronted Israel directly in 1948, 1967, 1973, and 1982, and continued to require mass conscription for its army. In 2011, the Arab Spring spread to Syria and put the al-Assad regime on the cusp of extinction. The Syrian armed forces suffered tremendous losses following the outbreak of the civil war, from both casualties and defections. As a result, the regime lost territory and sovereignty to such an extent that it had to rely on foreign support to preserve its rule. Syria's declining demographic and economic stability, combined with its deteriorating military power, led Israel to judge that the al-Assad regime no longer was a central threat to its national security, at least over the short term.[2]

The structural and doctrinal changes to the IDF were, by and large, the operational and organizational response to the gradual transformation of Hamas

and Hezbollah from local resistance movements into powerful militant organizations. Within twenty-five years, Hamas has transformed from a grassroots socioreligious movement into a political regime with a military wing consisting of over thirty thousand combatants and an arsenal of approximately twenty thousand rockets capable of reaching targets two hundred kilometers away.[3] Hezbollah has undergone an even greater organizational transformation, from a grassroots political movement into what many experts consider to be the most powerful nonstate military force in the world, with an estimated fifty to sixty thousand fighters and more than a hundred thousand rockets.[4] Hezbollah's tactical skill set evolved drastically as a result of its experience in the Syrian civil war and it now is capable of carrying out offensive attacks beyond Lebanon's borders and on Israel's home front.[5] Hamas's and Hezbollah's combat experience, firepower, and confidence have elevated their status in the eyes of the Israeli military leadership, which regards them as being among the primary military threats to Israel's security now.[6]

THE IDF'S NEW BATTLEGROUP FORMATION

In the summer of 2015, the IDF launched the Gideon multi-year plan (GMYP) under General Gantz to shrink, modernize, and reform the Israeli military to meet the asymmetric, nonstate adversary threats that now were prioritized over its traditional state-on-state warfare mission. The IDF cut combat and noncombat forces alike and across both active and reserve military formations. The IDF standing army was instructed to cut 10 percent of the commissioned and warrant officer posts and reduce their total number from 45,000 to 40,000 troops.[7] The size of conscripted forces was reduced as well; the length of male conscripted service was shortened by four months, and it is expected to be reduced by an additional two months in the coming years.[8] The reserve forces were affected most by the GMYP, which suggested cutting 30 percent of the reserve army, which meant releasing one hundred thousand out of three hundred thousand active reservists.[9]

Perhaps the most profound change suggested by the GMYP was the reorganization of the IDF's combat formations. Since the founding of the IDF, the divisional formation had been the IDF's core operational battle group.[10] Following the Yom Kippur War in 1973, the decline of conventional warfare and the rise of nonstate adversaries led to an erosion of the divisional framework as the IDF's primary battle formation. As time went on, the IDF operated in smaller areas of the West Bank, Gaza Strip, and southern Lebanon that did not require, nor could they accommodate, large task forces. The IDF's missions no longer were to occupy vast adversary-state territory but, instead, to gain operational control over geographically limited hostile areas and eliminate localized threats such as missile capabilities and arms-smuggling tunnels. The capabilities of the nonstate

adversaries against which the IDF increasingly was being tasked—disorganized militias in southern Lebanon and local Palestinian terrorist cells in the West Bank and the Gaza Strip—as advanced as they were, did not justify deploying entire divisions. Furthermore, deploying large task forces could have resulted in more casualties, more collateral damage, and ineffective use of the combat forces.

In 2011, the IDF began implementing a new operational doctrine that established brigades as independent battle groups instead of division-sized formations, each capable of planning and executing ground maneuvers without divisional support.[11] The new brigade battlegroup formation consisted of six battalions, including infantry, armor, artillery, and combat-engineering forces. In addition, each battalion now could communicate directly with the air force and navy for exfiltration or fire support. To allow better control and coordination between the different battalions, each brigade battle group was given its own command-and-control headquarters. These headquarters were in continuous communication with other field forces, as well as with parallel forces and the senior commander. Brigades were now responsible for managing their own logistics, rearmament, and tactical extractions.[12]

The driving forces behind these changes were the rise of nonstate adversaries, the declining threat from neighboring nation-states, and groundbreaking innovations in military technology.

The primary purpose of the new battlegroup formation was to create a fighting force that would be more relevant in future conflicts against Hezbollah and Hamas. Israel expects its future conflicts will be characterized by dynamic adversaries that constantly change their structure and methods, in addition to acquiring new techniques and weaponry. The shift to smaller battle groups with the combined capabilities of different corps and the ability independently to plan and execute battle plans increases the IDF's effectiveness and flexibility.[13]

In turn, this reform of the IDF's primary fighting formations had profound impacts on the organization of the army branches and corps that contributed forces to the new brigades.

Infantry

In recent years, the IDF reduced the size of its combat infantry forces and expanded the constabulary forces that guard Israel's borders and the occupied territories. In 2005, the IDF established a new infantry brigade to specialize in those security missions, the Kfir Brigade. The Kfir Brigade was larger than most combat infantry brigades; IDF infantry brigades usually consist of four battalions, whereas the Kfir Brigade consisted of five battalions. The brigade's purpose

was to maintain a permanent presence in the West Bank to perform routine security missions, protect the Israeli settlements, and prevent infiltration attempts into Israel.[14] Between 2004 and 2017, to perform border-protection and routine security missions across Israel's borders, the IDF established four more similar battalions: the Caracal, Lions of the Jordan Valley, Cheetah (Bardelas), and Lion of the Valley battalions.[15]

The IDF's combat infantry units, after experiencing a significant reduction in manpower following the decision to reduce the length of compulsory military service, began focusing their training on combating guerrilla warfare and preparing for future conflicts against Hezbollah and Hamas. The basic training of IDF infantry units is divided into two parts, general training and specialized training. The IDF has not changed the general training style and requirements significantly over the last several decades. The first part of the basic training is focused on fundamentals. These include preparing, using, and maintaining a personal rifle; walking long distances with heavy weight; team protocols such as battle formations and movement; and military sign language and chain-of-command structures. The second part of the basic training is conducted after the soldiers are assigned to their individual specializations: squad leaders, advanced marksmen, machine gunners, grenade gunners, shoulder-fired-missile operators, medics, or riflemen. In this phase, they learn about the theory and practice of their respective roles and undergo extensive training and tests to qualify as fully operationally proficient.[16]

In contrast, the specialized training of IDF infantry soldiers has seen substantial changes in response to Israel's changing adversary priorities. In the past, the specialized training focused on open-field warfare techniques. This included individual, squad, platoon, and company open-field-warfare drills, focused on capturing and holding strategic geographic positions to support seizing and controlling large swaths of territory. Urban warfare was practiced only rarely and underground warfare and fighting techniques in tunnels and underground fortifications were excluded entirely from the training curriculum of standard infantry units. The most basic principle regarding underground installations and urban areas was simply to avoid them. However, from 2014 onward, the specialized training focused on urban warfare and introduced underground warfare as a new concept with its own combat doctrine. Open-battlefield warfare practices, such as occupying Syrian and Egyptian fortifications, were removed from specialized training programs.

Armored Corps

Historically, the two fundamental principles of the IDF armored corps were mobility and speed; the underlying logic behind these principles was to leverage the armored corps's unique movement capabilities to minimize its exposure and vulnerability.[17] The IDF exploited these capabilities to achieve decisive

victories against conventional enemy forces. During the Suez crisis of 1956, the 38th Armored Division, led by Ariel Sharon, penetrated the armistice line with Egypt along the Sinai Peninsula and captured the strategically crucial Abu-Ageila military compound.[18] During the Six-Day War of 1967, the IDF armored corps bypassed Egyptian defensive lines on the southern front and captured the eastern bank of the Suez Canal within two days.[19] In the Yom Kippur War of 1973, the armored corps pushed Syrian forces to retreat from the Golan Heights and then breached their lines to establish a forward offensive position only forty kilometers from Damascus.[20] These conflicts all were characterized by open-battlefield warfare, and the guiding principle on urban warfare at the time was to avoid it unless it was essential to the mission.

Over the years, the battle space and adversaries shifted away from that traditional paradigm toward more-urban conflict environments, and the armored corps's role in subsequent operations diminished. The armored corps, like the rest of the IDF, went from fighting open-field warfare against conventional armies to conducting urban warfare against nonstate adversaries. In urban warfare, armored units are unwieldy, less effective, and more vulnerable than in rural environments. Urban defenders have inherent advantages; they can prepare strong defensive formations and fortifications, lure their adversary into vulnerable positions, and move unexposed across infrastructure and populations. An armored attacker, on the other hand, has limited ability to navigate, mobilize, and communicate with other forces, especially as part of a diverse battle group.

The Lebanon war of 2006 illustrated armored units' diminishing effectiveness in urban and asymmetric warfare environments. During the first three weeks of fighting, the armored corps and the rest of the IDF ground forces waited in staging areas while air forces engaged Hezbollah. When the ground invasion commenced, only two of four active armored brigades participated, using just 370 of the estimated four thousand tanks in the Israeli inventory. The missions assigned to armored units in Lebanon were also much different than in Israel's previous conflicts. Instead of penetrating deep into southern Lebanon, the armored corps carried out raids against suspected Hezbollah compounds near the border. It also engaged in routine security missions, such as patrolling an operational route leading from Israel to southern Lebanon, performed rescue missions, and provided logistical support (e.g., transporting food, water, ammunition, and equipment to the other fighting forces).[21]

To remain relevant, the IDF armored corps significantly reduced its size and changed its structure to adapt to Israel's evolving security challenges. According to former deputy chief of general staff Major General (Ret.) Yair Nave, more than ten reserve brigades were eliminated over the last decade.[22] Still more brigades are expected to be phased out as the IDF continues to downsize its armored corps.

In addition, instead of having four to six armored companies in each battalion of the remaining tank brigades, they are being reorganized to have three tank companies, two infantry companies, and one combat-engineering company.[23] With this mix of forces, armored units now can operate independently as small task forces, complete a wider variety of missions, and operate more effectively in urban-warfare environments. These changes to the armored corps's structure and its integration into the new battlegroup formations made armored units much more relevant and effective in Operation PROTECTIVE EDGE of 2014 than they had been in other recent conflicts. The operation employed all four active armored brigades for the first time in thirty-two years, and five hundred tanks took part in the fighting. The armored corps suffered fourteen fatalities in the operation, but all these were caused by mortar fire outside the Gaza Strip or by sniper fire against personnel while outside their vehicle; no IDF tanks were destroyed or permanently incapacitated by enemy fire.[24]

Artillery

During the first decades of Israel's existence, the official mission of the IDF artillery corps was to provide covering fire for the maneuvering forces. The artillery corps played a key role in Israel's armed conflicts in the 1960s and 1970s. In the Six-Day War of 1967, the IDF artillery corps destroyed twenty-six of forty Syrian missile batteries and provided covering fire for the maneuvering IDF ground forces, enabling them to capture the Syrian Golan Heights within two days of fighting. In the Yom Kippur War of 1973, the artillery corps divided its attention between two fronts. The Drakon battalion was instrumental in blocking the Syrian armed forces from advancing in the north while the rest of the corps enabled the IDF's counterattack against the Egyptian armed forces in the Sinai Peninsula.[25]

However, as with the fate of the IDF's armored corps, the waning of conventional warfare reduced the artillery corps's relevance in Israel's modern conflicts. Since the Yom Kippur War of 1973, no foreign military has attempted to invade Israel and the IDF conducted multidivision ground maneuvers only once, during the Lebanon war of 1982. More importantly, when IDF combat forces penetrated hostile areas, battlefield conditions limited the ability of the artillery corps to provide fire support. The large kill radius of artillery shells combined with their inability to hit targets with sufficient precision increased the risk of friendly fire or of excessive collateral damage, limiting artillery's useful role in the conflict.

The artillery corps began reforming and reorganizing itself to address the changing operational environment that the IDF faced by the time the second intifada began in 2000. In the middle of the first decade of the twenty-first century, Israeli military leadership established two new secretive units within the artillery corps to address the mismatch between the corps's traditional capabilities and the needs of a more urban battlefield. Instead of artillery weapons, the new units

were equipped with unmanned aerial vehicles (UAVs) to conduct assault and reconnaissance missions.

The assault UAV unit, called Zik or Unit 5252, operates the Israeli-made Hermes 450 UAV. The Hermes 450 is a multirole, high-performance, tactical UAV capable of collecting intelligence, conducting electronic warfare, and launching missiles.[26] The main virtue of the Zik unit is its ability to use precision-guided munitions to launch surgical strikes, thus minimizing collateral damage and threatening distant and hidden targets.

The reconnaissance UAV unit, called Sky Rider or Unit 5353, operates the Israeli-made Skylark I, II, and III UAVs.[27] The Skylark is a miniature, modular, and autonomous UAV; it is small enough to be packed up and carried by ground forces and deployed within minutes. The UAV is equipped with advanced communication features that allow it to pass real-time, high-resolution videos, day or night, within a forty-kilometer radius.[28] The role of the Sky Rider unit is different from other UAV units, as its primary mission is to deliver real-time, tactical intelligence directly to junior combat officers on the battlefield.[29]

The innovative Zik and Sky Rider units presaged other paradigm shifts within the IDF artillery corps. In 2014, the artillery corps created a new Detection Unit, whose original mission was to identify, monitor, and report on the trajectory of missiles and rockets fired into and out of Israel.[30] The Detection Unit also collected meteorological data to pass on to weapons system operators. The unit deployed sensors at various altitudes using several unique platforms. These sensors collected meteorological data such as air pressure, humidity, wind, and temperature, which are critical for making accurate ballistic calculations and increasing weapon accuracy. The data were used to improve the accuracy and effectiveness of artillery guns, UAVs, and precision-guided missiles.[31] As the artillery corps's tools changed, its personnel structure was reduced or reallocated significantly. In the past decade, half the IDF reserve artillery brigades were disestablished, their equipment was sold or scrapped, and the reservists who had served in these brigades were released or assigned to regular infantry brigades.[32] This left the IDF with four active artillery brigades and four reserve artillery battalions.[33]

The IDF's missions no longer were to occupy vast adversary-state territory but, instead, to gain operational control over geographically limited hostile areas and eliminate localized threats such as missile capabilities and arms-smuggling tunnels.

AIR FORCE

In the first decades of Israel's existence and in its early military conflicts, the Israeli Air Force (IAF) was tasked with supporting the ground forces as they

progressed toward and captured enemy territory, and with maintaining aerial superiority. To achieve this, the IAF operated under two guiding principles that persist to this day, in some respects. The first principle was the element of surprise; because the IAF had limited air resources compared with the combined air assets of the Arab alliance that Israel faced in its early years, it was vital to operational success for the IAF to strike adversaries first.[34] The IAF's second principle, also driven by its relative size, was to concentrate its effort against a single front or objective before moving on to the next one, rather than dividing into small task forces to attack multiple targets simultaneously.[35]

The Six-Day War of 1967 illustrated the decisiveness of these principles in practice. The war commenced with a surprise aerial attack against Egypt, focusing on its airfields and aircraft while they were still on the ground. Within five hours, the IAF performed 347 sorties and destroyed more than three hundred Egyptian fighter jets and eleven Egyptian military airfields.[36] The IAF then carried out 125 sorties against targets in Syria and Jordan, destroying most of the Syrian air force and severely damaging the Jordanian air force. The IAF suffered twenty-four fatalities and lost forty-six fighter jets.[37]

Six years later, the IAF faced the reverse scenario. On 6 October 1973, Egypt and Syria launched a surprise attack on Israel. The IAF first had to defend Israel's airspace; only then could it go on the offensive. The IAF also was challenged by Egypt's and Syria's newly acquired, Soviet-made antiaircraft systems, which they purchased pursuant to the lessons of the previous conflict.[38] Unlike the Six-Day War, the Yom Kippur War lasted almost three weeks, and the IAF suffered ninety-two fatalities and lost 103 fighter jets.[39]

In the wake of these wars, the IAF worked to improve its aerial dogfighting capabilities, procure new technologies to defeat Soviet antiaircraft systems, and increase the accuracy and efficacy of its strikes against enemy targets. In 1978, Israel purchased seventy-five Lockheed Martin F-16 Fighting Falcon fighter jets, designed for stealth and air-to-ground attacks, and the McDonnell Douglas F-15A Eagle, designed for aerial dogfighting against adversary jets.[40] These modernizations led to improved IAF performance during the 1982 Lebanon war. Over ninety days of operations, the IAF destroyed Syria's Soviet-made antiaircraft systems and shot down a hundred Syrian fighter jets, with zero losses to IAF air forces.[41]

However, as Israel increasingly became engaged in low-intensity conflict against the Palestine Liberation Organization (PLO), Hamas, and Hezbollah, the IAF's operational role in Israel's military campaigns decreased. Israel's nonstate adversaries diminished the relevance of Israel's air superiority by adopting guerrilla tactics. They operated in small groups; carried out low-profile operations in unexpected locations; and used light weapons, suicide bombers, and rockets. To

protect themselves, they moved constantly, kept strict secrecy about the locations of their military installations, and assimilated themselves into civilian populations and infrastructure. During the first and second intifadas, the IAF made a significant contribution to Israel's attempt to achieve military victory but was much less influential to the outcome than the ground forces. During the Lebanon war of 2006, IAF operations were lethal and efficient but failed to influence the results of the war. Over thirty-three days, the IAF executed eighteen thousand sorties and destroyed thousands of rocket launchers and military installations.[42] But throughout that period, Hezbollah continued to launch rockets into Israel, showing Israeli military leadership that the IAF's dominance was no longer a guarantor of victory in battle.

Toward the end of that decade, the IAF began prioritizing precision-strike accuracy and stealth over air-to-air and air-to-ground attack capabilities. These capabilities were vital to Israel's attempt to prevent advanced weapons systems from reaching Hamas and Hezbollah. This allowed the IAF to conduct long-distance air operations to carry out precision strikes far beyond Israel's border areas, such as in Sudan, Syria, Lebanon, and Iraq, while leaving no footprint or signature that could be attributed to Israel. Perhaps the highest national priority for the IAF was to maintain and demonstrate the ability to attack and destroy hardened nuclear facilities by air in remote and hostile territories, as it did in 1981 against Iraq's Osirak reactor, and later in Syria. Following its successful strike against the Syrian nuclear reactor in 2007, the IAF prepared for a potential attack against what were suspected widely to be Iranian nuclear facilities.[43]

These sensitive strike missions had significant implications for the IAF's force composition and engagement. In 2015, the Israeli defense ministry procured fourteen Lockheed Martin F-35 Lightning II fighter jets, which were added to nineteen units Israel had purchased already.[44] The F-35, while not suited for dogfights, has improved stealth capabilities and can reach distant and remote targets easily, conduct air-to-surface attacks, and even deploy some nuclear-armed missiles.[45] Simultaneously, Israel also expanded its UAV arsenal and doubled its fleet of Lockheed Martin C-130J Super Hercules aerial-refueling aircraft, expanding Israel's ability to attack remote targets at long distances.[46] These advanced acquisitions strained IAF budget constraints, forcing the IAF to deprioritize other capabilities. To save money, the IAF decided to disestablish several combat squadrons, including squadrons of F-15 and F-16A/B fighters and Bell AH-1 Cobra helicopters.[47]

NAVY

Israel shares many of the characteristics of an island, in that it is surrounded alternately by adversarial states or territories and the Mediterranean Sea. Israel has maritime borders with Egypt, Jordan, Hezbollah-controlled southern

Lebanon, and the Hamas-controlled Gaza Strip. Having a small population and limited natural resources, Israel always has been challenged to provide for its own subsistence and, therefore, has been reliant on imports via the sea. In fact, over the years, 98 percent of Israel's imported goods have entered through the Mediterranean and Red Seas.[48] With over 80 percent of Israel's population spread across its 197 kilometers of coastline, this area is especially vulnerable to attacks.[49] Moreover, much of Israel's critical infrastructure facilities, such as power stations, ports, military installations, communication channels, and water desalination facilities, are located near or along Israel's coast.

That being the case, protecting trade routes, securing Israel's territorial waters, and guarding the coastline are the Israeli navy's most vital missions. Israel's dependence on seaborne imports makes the need to maintain open sea routes especially important during wartime. Israel's navy was designed to engage Egypt's and Syria's Soviet-backed navies, which Israeli leadership viewed as the primary maritime threat.[50] To that end, the Israeli navy procured destroyers, missile boats, versatile patrol boats, and two submarines.[51] To minimize dependence on military imports, Israeli Military Industries developed maritime weaponry such as the Gabriel missile system, designed specifically for surface naval warfare.[52]

During the Yom Kippur War of 1973, the Israeli navy defeated the Egyptian and Syrian navies while suffering no ship or personnel losses of its own.[53] As with the ground forces, the quantitative power balance at sea seemingly tilted heavily toward Egypt and Syria, which enjoyed significant superiority in terms of warships and firepower. The Israeli navy had fourteen missile boats against Egypt and Syria's combined twenty-four missile boats. Just prior to the war, the Israeli navy had decommissioned its two old submarines, leaving a significant capability gap against the Egyptian navy's twelve active submarines. Nonetheless, the Israeli navy destroyed or captured twenty-four enemy vessels while suffering only minimal damage and personnel casualties. Throughout the entire war, the Israeli navy managed to keep Israel's ports safe and most of the Mediterranean trade routes open, which permitted a continuous flow of energy and other supplies to Israel.[54] Most importantly, the Israeli navy pushed those rival navies out of Israel's territorial waters and ensured that no Israeli coastal city was attacked from the sea during the conflict.[55]

After the 1973 war, the diminishing likelihood of a maritime battle with rival navies and increasing tension with nonstate adversaries led the Israeli military leadership to direct the navy to invest more resources in maritime-security missions to prevent attacks against Israeli citizens.[56] The navy decommissioned all of its destroyers and large missile boats and began purchasing patrol boats and small- and medium-size missile boats.[57] These changes came at a price. The navy was criticized for not making a sufficient contribution to the 2006 Lebanon

war. Two days into the war, Hezbollah launched two C-802 antiship cruise missiles against an Israeli Sa'ar 5–class corvette, killing four members of the ship's crew. The Winograd commission of inquiry into the war concluded that the navy operated in a mind-set of conducting policing operations rather than an offensive military conflict, leading crewmembers to disregard Hezbollah's lethality and threat.[58]

In 2007, the navy took on responsibility for enforcing the blockade of the Gaza Strip.[59] The Gaza conflicts and the continuous attempts by militant groups to infiltrate Israel via the sea or to break the blockade demanded that the navy play this growing role in routine security operations. In 2011, the navy added another routine security mission: the protection of Israel's newly discovered offshore natural gas fields.[60] Between 2009 and 2012, Israel discovered several gas fields with an estimated 680 billion cubic meters of natural gas.[61] The discovery of the gas reserves led Israel to begin switching its power-generation infrastructure to use natural gas, meaning that a successful attack against those gas fields could jeopardize Israel's energy security.[62] The navy was instructed to provide a tiered defense of Israel's offshore energy infrastructure, including the gas wells, platforms, and underwater pipelines.[63]

[B]y 2011 the IDF prioritized cyber defense as the most pressing need within the military, and new recruits who were eligible for combat service but also passed cyber units' requirements were sent directly to the cyber units.

In 2011, Israel purchased three additional submarines from Germany, doubling its fleet to six hulls.[64] While the German manufacturer was responsible for building the submarine hulls, Israeli teams were responsible for the combat systems and weapons that were installed on board. These included advanced radar and communication systems, electronic warfare systems, equipment for deploying special forces divers to infiltrate hostile areas, and the ability to launch torpedoes and cruise missiles with conventional and unconventional warheads and ranges up to 1,500 kilometers.[65] The main catalyst for the latest submarine purchase was Iran's pursuit of nuclear-weapons capabilities. The IDF was instructed to prepare for two possible scenarios to address Iran's nuclear ambitions. The first was that Israel would launch an attack against Iran's nuclear facilities. In this case, Israel should be able to threaten Iran with a nuclear response in case the latter decided to retaliate with other strategic weapons. In the second scenario Iran would develop a nuclear weapon and threaten to use it against Israel. In this case, Israel would expand its deterrence to make sure Iran comprehended that an attack on Israel most likely would lead to mutual destruction.[66]

SPECIAL FORCES

The IDF special forces can be classified into four groups.

1. The elite units: General Staff Reconnaissance Unit (Sayeret Matkal), naval commandos (Shayetet 13), air force commandos (Shaldag), and the Special Operations Engineering Unit (Yahalom*)*
2. The commando units: Egoz, Maglan, and Duvdevan
3. The reconnaissance units: Paratroopers Reconnaissance Battalion, Golani Reconnaissance Battalion, Givati Reconnaissance Battalion, Nahal Reconnaissance Battalion, and 401st and 7th Reconnaissance Battalions
4. The specialized units: 669 Unit for airborne combat search and rescue, canine unit (Oketz), 504 Unit of the Human Intelligence Division, and Moran Unit for precision-guided missiles

Despite the profusion of special-operations units in the IDF, on only two occasions did the special forces make a significant contribution to the outcome of a war. The first was during the Suez crisis of 1956, in which the paratroopers were deployed behind enemy lines to the Mitla Pass in the Sinai Peninsula. The second was during the 1967 Six-Day War, when the paratroopers again deployed behind enemy lines to Abu-Ageila, also in the Sinai Peninsula.[67] The IDF's elite, commando, reconnaissance, and specialized units have not affected the outcome of any other wars decisively. In most cases, they either received small and insignificant, yet complex, missions or were annexed to an operational brigade and fought under its command.

Following twenty-four years of low-intensity conflict in southern Lebanon, the West Bank, and the Gaza Strip, the IDF special forces' ability to contribute decisively to a large-scale military campaign had reached its nadir. The Winograd Commission for the inquiry into the Lebanon war of 2006 concluded that the IDF did not make effective use of its special forces. According to the report, special forces were scattered across the IDF and were subordinated to various commands: "the decentralized command of the special forces damaged their ability to constitute a significant force . . . [which explains their] limited contribution to the greater strategic cause." The committee went so far as to conclude that some IDF special-forces units had been established to deal with specific operational challenges and that many of these challenges no longer existed. Pride and comradery prevented these units from pivoting their focus or creating collaborations that could have been relevant to large-scale conflicts.[68]

In 2011, as part of the lessons of the Lebanon war of 2006, the IDF established the Depth Corps.[69] The core of the new command was a new Commando Brigade, which was a seminal unification of the IDF commando units.

Historically, the IDF's commando units all operated independently, not under a unified command. When the new brigade was established, the three commando units—the Egoz, Maglan, and Duvdevan commandos—were extracted from their existing organizational and command affiliations and began training and operating as a unified fighting force.[70] The Commando Brigade unified these units under one centralized command, making it the most lethal synchronized brigade in the IDF, and the most relevant force to combat Hamas and Hezbollah.

The reconnaissance units underwent structural and doctrinal changes as well. Each of the IDF's reconnaissance battalions was composed of three companies: an antitank company, a sabotage and engineering company, and a reconnaissance company. Following the implementation of the GMYP, the missions and training routines of these companies changed. The most significant modifications were the focus on underground warfare and the replacement of the antitank and sabotage and engineering companies with three identical reconnaissance companies in each of the reconnaissance battalions.[71] The operational rationale for this was that combating Israel's new unconventional adversaries, which lacked armored forces and infrastructure requiring specialized units to handle, demanded different capabilities from the reconnaissance units.

Elite units remained separate from the new battle groups even after the other special-forces units were reorganized. While the GMYP reduced the size of the IDF's conventional combat forces, the elite units were expanded and allocated even more training resources, and their service track was modified. Prior to the new service track, male soldiers in the elite units were obligated to serve the same three years as other conscripts and then were required to complete an additional sixteen to twenty months of training before another three-year service period in an elite unit. Soldiers identified as potential commanders during that training period continued to Officer's Cadet School, while the rest of the elite-unit soldiers continued their service as noncommissioned officers.[72] Following the implementation of the GMYP, the elite units introduced a new service track. Now, all soldiers selected for the elite units would be admitted to Officer's Cadet School and serve for seven consecutive years.[73] This change is expected to increase dramatically the size of the elite units and help the members of those units be seen as professionals rather than conscripted troops.

IDF INTELLIGENCE DIRECTORATE

Israeli military intelligence is divided into four core units. The signals-intelligence (SIGINT) unit is responsible for intercepting communications and electronic signals. The visual-intelligence (VISINT) unit is responsible for mapping hostile areas and interpreting images from satellites and other visual resources, such

as reconnaissance photographs.[74] The human-intelligence (HUMINT) unit is responsible for recruiting and handling human assets, and related operations.[75] The research unit is responsible for providing threat warnings of possible hostile operations and indications of adversary intentions.

In the past, traditional military targets included military bases, concentrations of forces, defense formations, dams, power stations, bridges, and other elements of permanent infrastructure. These targets did not require precision targeting, as they mostly were large, static, and distant from civilian populations. The intelligence process—researching, collecting, processing, analyzing, and distributing finished products—could take months or years to complete. Over time, with the declining likelihood of a conventional war and the rising threat of nonstate adversaries, military intelligence's focus shifted. Rather than identifying the capabilities and intentions of nations, military intelligence's focus now is on monitoring the military proliferation of nonstate adversaries, detecting and alerting on imminent threats, and developing methods to obtain and deliver intelligence quickly.[76] This shift in focus forced the IDF Intelligence Directorate to implement new doctrinal and structural changes, as well as to introduce new capabilities to remain relevant.

The SIGINT unit, known as 8200 Unit, responsible for intercepting communications and electronic signals, experienced tremendous growth in recent years. It added a cyber unit that specializes in hacking and sabotaging electronic systems, and the Hatsav Unit, which collects intelligence from social media platforms.[77] The most significant addition to the SIGINT unit was the establishment of the Operational SIGINT Battalion. Intelligence analysts belonging to this battalion provide combat forces with real-time intelligence during operations.[78] In practice, this means that intelligence analysts of the Operational SIGINT Battalion are annexed temporarily to a field unit for specific missions or operations. They join the field unit's operational control center and synthesize existing information with real-time reports from the battlefield and other sources such as drones, cameras, and wiretaps. They communicate their assessments directly to operational forces in the field to warn them of imminent threats, verify their observations, and support them amid the uncertainty of battle.

The VISINT unit, known as 9900 Unit, also grew significantly. In the 1990s, the VISINT unit began expanding its intelligence-collection platforms to include human observation and static cameras, as well as vehicles, vessels, aircraft, and, most importantly, satellites.[79] In 1988, Israel became the eighth country in the world to launch a surveillance satellite into space independently. Israel successfully launched eight more satellites into orbit over the next three decades. The last one, the reconnaissance satellite Ofek 11, was launched in 2016.[80] The VISINT unit was expanded to develop new techniques for producing intelligence from

existing visual images and to cope with the constantly growing flow of visual data coming from the new collection resources.[81]

The IDF Intelligence Directorate also implemented cross-organizational changes to be more effective against nonstate adversaries and unconventional capabilities. In the past, internal groups within the research, SIGINT, VISINT, and HUMINT units had been organized around geographic areas or particular stages of the intelligence process. Now, for the first time, relevant sections were not limited to working on specific geographic areas but instead were organized to focus on organizational or ideological targets, such as the Islamic Jihad and ISIS. Other sections were organized by the type of threat, such as weapons of mass destruction or low-intensity conflict. Finally, some units were aligned to different scopes of intelligence: national-level intelligence for the prime minister, strategic-level intelligence for the chief of general staff, operational-level intelligence for headquarters and high commands, and tactical-level intelligence for combat forces.[82]

[T]he IDF's transformation and Israel's self-fortification approach to security means that the IDF may not be properly prepared to contend with evolving complex threats as nonstate adversaries grow in size and acquire rocket and missile capabilities that once belonged only to states.

Moving from a geographic paradigm to a capability and organizational one necessitated additional reforms to military intelligence. Following the Arab Spring, the IDF Intelligence Directorate recognized its failure to anticipate the severity of the uprisings and the regional instability that resulted. As a result, Major General Kochavi, then serving as the Military Intelligence director, established the Regional Section within the Research Department of the IDF Intelligence Directorate. The section's purpose was to investigate and monitor economic, social, and political developments, primarily in the Middle East, and identify potential geopolitical shifts of strategic significance to Israel. General Kochavi also enacted a new approach of assembling ad hoc multidisciplinary teams, subcommittees, and provisional headquarters to address time-sensitive threats.[83] Lastly, the IDF Intelligence Directorate established a new section—the Target Section—to build a database of targets using deep-learning algorithms and big data to take advantage of advances in developing information and analyzing trends, patterns, and associations. The algorithms can scan billions of data points (e.g., images, videos, audio, and electronic signals) to identify potential targets.[84] Analysts then can investigate the suggested targets, after an initial triage by the algorithms, and confirm correct selections, which in turn improves the algorithms' performance.

CYBER

The IDF established its first cyber units in 2011. Initially, the Shin Bet, Israel's civilian internal-security service, was responsible for defending Israel's critical cyber infrastructure. However, the IDF had greater organizational and technical capacity to establish and operate larger cyberoperations centers. As the cyber threat expanded beyond the capacity of any single agency's resources into a strategic, crosscutting dimension of war, the IDF began to prioritize cybersecurity and took over responsibility for protecting both Israel's security and civilian cyber infrastructures. The IDF's cyber activities were divided between two directorates. The Intelligence Directorate was responsible for offensive cyber operations and the collection of intelligence; the Computer and Information Technology (IT) Directorate was responsible for protecting the military and civilian infrastructures from attacks.[85] The Computer and IT Directorate then was expanded to include a new division, the Cyber Defense Division. Subsequently, the name of the Computer and IT Directorate was changed to the Computer, IT, and Cyber Defense Directorate.

The Cyber Defense Division is responsible for providing defense for air, sea, land, and cyberspace, and is the senior authority for cyber protection in the IDF. The division protects the IDF's communication and computing systems and its technology-based offensive and defensive cyber capabilities, and it trains all IDF forces in countercyber practices and operations. The Cyber Defense Division's primary objective is to prevent electronic information from leaking out of the IDF, and it ensures the continuity of IDF operations without IT disruptions.[86]

The organizational structure of the Cyber Defense Division is unique and reflects the unit's significance within the IDF. A brigadier general was appointed to command the division; in the IDF, staff divisions more typically are led by colonels.[87] The Cyber Defense Division also, rather than the normal three sections, has four—operations, intelligence, technological, and electronic warfare—each commanded by an officer at the rank of colonel.[88] Finally, the Cyber Defense Division was given a unique modular structure in which soldiers could work as part of a large task force but also could be annexed to combat branches of the IDF to work independently or in small teams.[89]

Two additional organizations were created to assist the Cyber Defense Division in implementing its policies and improving connectivity and cooperation. The first was a cyber branch within the IDF multi-corps command headquarters, which already had air force, armored, naval and infantry branches. The purpose of the cyber branch was to protect offensive and defensive military capabilities (e.g., armored personnel carriers, weapons, radars, and computing systems) from cyber attacks. In practice, this required ensuring the safety of the entire manufacturing process and supply chain, as well as routine checks against malware.[90]

The IDF also established a Cyber Situation Center to manage cyber-related emergencies, track international trends in cyberspace, and coordinate between the separate cyber units in the IDF.[91]

The establishment of these organizations and priorities for cyber defense marked a significant cultural shift within the IDF. The Israeli military had a long-standing tradition that prioritized combat units above all others in competitions for qualified manpower, budgets, and positions. IDF recruitment protocols dictated that new recruits were directed first to combat units, and only those who were not assessed to be qualified for combat duty were directed to noncombat units. But by 2011 the IDF prioritized cyber defense as the most pressing need within the military, and new recruits who were eligible for combat service but also passed cyber units' requirements were sent directly to the cyber units. Moreover, the IDF, for the first time in its short history, launched a program that offered eligible soldiers in combat units the option to transfer to a cyber unit.[92] Finally, while combat forces were experiencing a significant reduction in manpower and the IDF cut five thousand officers, the cyber units were provided with a hundred new positions for commissioned and noncommissioned officers in 2015, in addition to ten thousand new cyber posts already allocated.[93]

A TRANSFORMED IDF AND THE RISKS OF "SELF-FORTIFICATION"

At the center of Israel's military transformation stands a new, defensive approach. Toward the end of the 2010s, Israel's perception of its military objectives in a conflict changed dramatically. Israel no longer sought the total defeat of its opponents or to uproot threats; it now sought to avoid large-scale confrontations by showing restraint, carrying out precision strikes, and building multiple layers of sophisticated defensive infrastructure and technology to protect itself. This defensive, rather than offensive, approach evolved into a new doctrine of "self-fortification." Instead of incorporating tactical defensive measures as part of a larger offensive effort to combat threats, these tactical measures, often based on groundbreaking innovations in military technology, became the principal deterrent to Israel's nonstate adversaries.

Beyond surrounding itself with fences and concrete walls along its borders, Israel has integrated advanced technologies to increase the effectiveness of these physical barriers. Throughout the years, Israel's border barriers have been fortified and equipped with day- and night-vision cameras, touch sensors, motion detectors, and floating cameras. These measures are reinforced with military patrols, human observers, and sand-filled areas near the fence that professional military trackers scan for footprints. In some locations, Israel has replaced its border fence with concrete and steel walls, particularly in places with a higher

risk of infiltration and sniper fire. In 2017, Israel began replacing the border fence with Lebanon, which stretches across 130 kilometers, with a nine-meter-high concrete wall topped with another three meters of steel fencing.[94]

A year later, Israel began building the new Israel-Gaza barrier. The six-meter-high barrier is made of galvanized steel and will stretch across the entire border between Israel and the Gaza Strip at completion.[95] Under the Israel-Gaza barrier, Israel has constructed a belowground concrete wall to protect against infiltration tunnels. The underground wall is expected to stretch across the sixty-five kilometers of the Israel-Gaza border. The barrier will consist of concrete and steel and will penetrate the ground as deep as thirty meters.[96] In 2018, Israel completed the construction of a new sea barrier along the maritime border with the Gaza Strip. The barrier consists of three layers—a regular breakwater, reinforced stone, and barbed wire—all reinforced by smart fences equipped with alarm systems and touch sensors, day- and night-vision cameras, and motion detectors.[97]

Israel has an active, multilayered missile-defense system arrayed against barrage threats from adversary states and militant organizations alike. This includes the Arrow 3, Arrow 2, David's Sling, Iron Dome, and Iron Beam—a newly developed active missile-defense system that uses concentrated laser waves to intercept smaller objects such as mortar shells and small drones. The multilayered defense system is under constant development and is expected to provide defense against mortar shells; short-, medium-, and long-range surface-to-surface missiles and rockets; medium- and long-range conventional and nuclear ballistic missiles; and UAVs.

Colonel Yehuda Vach, commander of the Heiram regional brigade of the Northern Command and one of the fiercest critics of Israel's doctrine of self-fortification, warns against the illusion of security that it creates: "[A] nation that fortifies itself [with fences, barriers, and walls] is a nation that lives in fear. The more fences we built across the borders, the more our security doctrine became dependent on defense and self-fortification. A society that builds more and more fences is a society that lives in fear. Logically, it might seem that fortifications project strength but the truth is that it does not[;] if anything, it projects fear."[98] Through this lens, Israel's doctrine of self-fortification can be perceived as a symptom of national weakness. As Vach observed: "[T]he fighting spirit of the military will not be reinforced by physical barriers but by its mental strength. A nation that hides, projects mental weakness, is making it easier for the enemy to defeat it. . . . [T]he fence creates an illusion, a false perception that [misleads people into believing that] they are safe."[99]

Major General (Ret.) Yitzhak Brick, who served as IDF chief ombudsman and examined the operational readiness of more than a thousand military

units during his service, is another fierce critic of the current trend in the IDF. Brick criticized political and military leaders for shifting the IDF's force planning toward defeating nonstate adversaries and disregarding the possibility of a conventional war in the future. According to Brick, "the current misconception [among] the IDF military command [is] that there won't be any more big [conventional] wars. They do not consider the possibility that the Middle East will change . . . that the Syrians might recover, that the Egyptians will change their attitude, nothing. Just a small military for two arenas [the Gaza Strip and Lebanon]."[100]

But Brick believes the IDF still will encounter difficulties facing nonstate adversaries, even with a self-fortification doctrine.

> The next war will be a multi-front war against Hamas from Gaza, Hezbollah from Lebanon and [at the same time we will have to deal with] missile attacks from Syria and perhaps from Iraq. . . . [The next war] will include pounding [heavy missile barrages] of population centers in Israel by hundreds of thousands of rockets. . . . [Israel will be] attacked by 1500–2000 missiles every day, . . . among them, missiles with 600–700 kilogram warheads. . . . [Israel] is facing a serious problem, as it is currently incapable of blocking such [heavy, coordinated bombardment]. The air force alone cannot do it, as we saw during the previous campaigns in Gaza. Our [anti]missile [systems] are not developed enough to deal with such a large number of missiles.[101]

Senior officers in the IDF have explained that the only way to prevent massive and destructive barrages from raining into Israel is to capture temporarily the hostile areas from which the shelling is taking place.[102] Previous military campaigns in the Gaza Strip and southern Lebanon demonstrated that the air force alone, despite its advanced antimissile capabilities, could not prevent missile launches into Israel altogether, much less a coordinated missile attack on four fronts. Thus, defending Israel effectively from major multiaxis barrages would require a major military ground operation in which the IDF captures and controls launching areas in Gaza, Lebanon, and Syria and, if need be, extends this ground control as far as Iraq or Iran. Because the IDF reduced and deprioritized its conventional fighting forces over the past decade, it is reasonable to conclude that the IDF is not sufficiently prepared to contend with this worst-case scenario and contemporary existential threats to Israel.

Overall, this article provides a primary analysis of recent structural changes in the IDF at the tactical level, based on interviews with IDF soldiers, and points to five observable trends: decreasing conventional capabilities, investing in and developing defensive capabilities, reorientation of the practices and structure of IDF combat forces toward guerrilla warfare, prioritizing cyber and intelligence capabilities, and expanding nuclear capabilities in the air and at sea.

These trends indicate a doctrinal evolution in Israel toward prioritizing nonstate adversaries. The rise of nonstate adversaries and the declining conventional threat from nation-states, along with groundbreaking innovations in military technology, drove this transformation. Israel's shift toward a defensive security doctrine has shaped the IDF's force planning and readiness for war, which now reinforce that doctrine in turn. The cementing of both the IDF's transformation and Israel's self-fortification approach to security means that the IDF may not be properly prepared to contend with evolving complex threats as nonstate adversaries grow in size and acquire rocket and missile capabilities that once belonged only to states.

NOTES

Some names have been anonymized to protect interview sources but relevant information about their positions or expertise is provided where possible.

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CULTURAL CHALLENGES FOR ISRAELI SEA POWER IN THE EASTERN MEDITERRANEAN

Samuel Helfont

Israel traditionally has been reluctant to build a large navy or to become a sea power. Nevertheless, the discovery of extensive natural gas fields in the eastern Mediterranean over the past decade has transformed the region further into a strategic powder keg that is drawing Israel out to sea. Turkey, Greece, Cyprus, Israel, and Lebanon disagree about the borders of their maritime exclusive economic zones (EEZs), and they have attempted to impose their overlapping claims by force. The simmering conflicts have drawn in an array of regional powers. More recently, the United States has waded into the dispute; Russia is not far behind.

Israel's discovery of large gas fields in its own offshore EEZ has brought it into geostrategic alignment with Cyprus and Greece. From a regional security standpoint, it is one of the most interesting actors. In some circles, Israel has been touted as a type of silver bullet that will solve the imbalance between the Hellenic states and Turkey. Israel's new interest in the eastern Mediterranean has produced a small but quickly growing literature on Israel's "turn to the sea."[1] The rapidly changing strategic situation has spurred the creation of research centers and high-profile working groups asking whether Israel can become a sea power. The answer to this question mostly has been an enthusiastic yes.[2]

Yet, historically, *sea power*—the ability to employ the sea in achieving national interests—has required

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more than a shift in operational focus toward the maritime domain; it involves adopting a much broader national and strategic culture that is able to channel significant resources away from the land and toward the sea. Israel has begun to take the sea more seriously and it has developed its offshore operational capabilities significantly over the past few decades; yet, for several reasons that this article will discuss, Israeli culture remains tied to the land rather than the sea. Using cultural and constructivist approaches to security that have emerged over the past few decades, this article will show why that fact will continue to create challenges for the development of Israeli sea power.[3] Israel and its allies need to consider these cultural constraints when developing naval strategy, and they should factor them into discussions about how much they can expect Israel to contribute to resolving potential maritime conflicts in the eastern Mediterranean.

Much of the growing literature on Israel's turn to the sea highlights Israel's offshore interests. However, Israeli interests at sea are not new. Because the country lacks close relations with its neighbors—indeed, they often boycott it—99 percent of Israeli trade by volume travels by sea. Thus, geostrategically, Israel is equivalent to an island, and it always has been extremely vulnerable to maritime threats.[4] As David Ben-Gurion himself stated, "There is no Land of Israel without the sea of Israel."[5] These threats are not hypothetical; Israel fought two wars (in 1956 and 1967) largely over access to the sea.

Additionally, the recent focus on Israeli maritime affairs is not the first time that political leaders and strategic analysts have proclaimed a turn to the sea by Israel. On multiple occasions over several decades, Zionist leaders who recognized Israel's vital interests at sea announced that they finally had overcome the Jewish state's "sea blindness." Yet the need to make such claims repeatedly demonstrates that the transition has never quite occurred. Throughout its history, Israel's navalists have had to fight a culture deeply rooted in the land, one that was not willing to make the necessary terrestrial sacrifices to build sea power. Assessing the viability of Israel's current turn to the sea requires examining the cultural impediments that Israel has faced in the past and that it will need to overcome in the future. In doing so, culturist and constructivist approaches to security in the eastern Mediterranean provide much-needed insight on a topic that has been dominated by materialist approaches.

This article first will lay out the rising tensions in the eastern Mediterranean and, by extension, the stakes for Israel's development of sea power. Next it will turn to a discussion of cultural approaches to the theory and history of sea power. This theoretical analysis of sea power largely is missing from the literature on Israel's turn to the sea, but, as this article will argue, grappling with the concept is critically important if one wishes to discuss Israel's attempt to play a larger role offshore. Then the article will discuss the tensions between the foundations of

Israeli national culture and the requirements of sea power. Finally the article will outline the cultural challenges that Israel has faced in obtaining sea power, and why many of those challenges likely will persist in the future.

THE STAKES

Before discussing cultural impediments to Israeli sea power, this article first must discuss the forces that currently are pulling Israel offshore and are making Israel's ability to operate at sea increasingly relevant. Over the past decade, Israel, Cyprus, and Egypt have located and begun to exploit massive natural gas fields in their maritime EEZs. Until recently, most estimates have valued these discoveries in the hundreds of billions of dollars, if not more;[6] the economic downturn caused by the coronavirus has reduced the projected value of the gas in the short term and, in some circles, has led to questions about the viability of some plans to exploit it. However, over the medium to long term, the gas still has the potential to transform energy markets, and it has reconfigured strategic alliances.[7] It also has kindled instability and conflict; several confrontations at sea already have occurred, and a naval arms race has kicked off among several eastern Mediterranean states. The United States and Russia increasingly are taking sides.

The contentions mainly stem from Turkey's interpretations of international law, which put it at odds with other states in the region as well as with the international community more generally. Since 1982, the United Nations Convention on the Law of the Sea (UNCLOS) has formed the basis for international maritime law.[8] UNCLOS designates territorial waters and maritime EEZs that govern resource exploitation at sea. However, because UNCLOS grants small islands the same rights as continental states, Turkey's EEZ is limited by the presence of Greek islands around its coast. Therefore, Turkey rejects UNCLOS and claims an EEZ without consideration for islands.[9]

This problem is compounded by the Cyprus dispute. Turkey is the only state in the world that recognizes the Turkish Republic of Northern Cyprus, located in the northeast part of the island, and the Turks have anointed themselves the guardians of the rights of Turkish Cypriots. As a result of these disputes, Turkey asserts a claim to offshore gas fields that the rest of the world recognizes as belonging to the Republic of Cyprus. Turkey has turned to the use of force to defend its claims on Cypriot and Greek waters; Ankara repeatedly has sent its navy to prevent Nicosia and Athens, and international oil companies, from drilling for gas there. Meanwhile, Turkish warships are protecting Turkish oil companies as they illegally explore and drill in Cypriot waters.[10]

The Turkish navy traditionally has been the most powerful in the region. However, Cypriot interests in confronting Turkey over access to offshore gas have aligned Cyprus with powerful regional and international actors. Israel and Egypt

currently are exploiting large offshore gas fields in their EEZs. Like Turkey, Israel is not a signatory to UNCLOS, but, unlike Turkey, Israel abides by UNCLOS definitions of territorial seas and EEZs. The UNCLOS interpretation of these matters is the basis for agreements that Israel has signed with its maritime neighbors over the past decade. Offshore gas could prove transformative to the Israeli and Egyptian economies if the countries can export it to European markets. The most obvious, and cost-effective, way to do so is through a pipeline that runs through Turkey. However, both countries have rocky relationships with Ankara and do not feel comfortable tying their economic interests to a Turkish pipeline. As an alternative, Israel, Cyprus, and Greece want to establish an undersea pipeline that would run from the gas fields in the eastern Mediterranean through Crete and up through Italy to supply the European continent.

The combination of shared energy interests and animosity toward Turkey has pulled Israel, Cyprus, and Greece into a close political alliance over the past decade.[11] From the beginning, this alliance, sometimes termed the "Energy Triangle," has had a military component. In 2011 and 2012, Israel sent its air force to Cyprus in a show of force meant to support its new ally. Israeli jets buzzed Turkish ships and entered what the Turks claim to be Northern Cyprus's airspace. This caused Turkey to scramble its own air force to interdict Israeli aircraft.[12] Israel and Greece also have begun to hold high-profile naval exercises in the region—a clear warning to the Turks.[13] Increasingly, Turkish actions have pushed Egypt and Italy into the alliance with Israel, Cyprus, and Greece. Newly discovered Egyptian gas fields are adjacent to Cypriot and Israeli fields, so the three states have been cooperating closely, and together they formed a high-profile East Mediterranean Gas Forum in Cairo in January 2020.[14] Turkish interference in the area has disrupted Egyptian gas operations and pushed Egypt even closer to Cyprus and Israel. In response to negotiations between Cairo and Nicosia on using liquefied natural gas (LNG) to avoid the Turkish pipeline in February 2018, the Turkish navy blockaded ships from the Italian energy company ENI from reaching their drilling site in Cypriot waters. The effect of the Turkish action was the opposite of what Ankara had hoped for—it actually drove Cyprus and Egypt closer together. They rushed to sign an agreement on sending Cypriot gas to Egypt for conversion to LNG so it could be exported to Europe by ship rather than through a Turkish pipeline. Shortly afterward, Israel followed Cyprus's lead and penned a deal with Egypt to do the same with its gas.[15]

Along with Israel, other regional actors have lined up against Turkey, especially after Ankara signed a deal with a semi-Islamist faction in the Libyan civil war in November 2019 to divide the central and eastern Mediterranean between them. In that deal, Turkey made a claim to seas that disregarded Greek islands and Cyprus. In defense of its European Union allies and international law, France

deployed its aircraft carrier, *Charles de Gaulle,* "to defensively stalk Turkish frigates sailing near to the contested gas fields close to Cyprus" in February 2020.[16] The United Arab Emirates, which opposes Turkish regional policies, particularly its actions in Libya, has become a strong supporter of Greece and Cyprus. Since 2018, it has participated in the annual Greek-led military exercise INIOCHOS, along with the United States, Israel, Cyprus, Italy, and Egypt.[17]

As these tensions mount in the region, Israel is being drawn into a setting in which several states are expanding their navies. Turkey has embarked on what it describes as a transformative expansion of its fleet—already the most powerful in the region, as noted. By 2023, Turkey will put twenty-four new ships to sea, including four frigates and its first aircraft carrier, *Anadolu*. Turkey also is developing its domestic submarine program, and it is retrofitting its existing ships and submarines with new navigation, weapons, and propulsion systems. In an attempt to transform itself into a true sea power, Turkey has emphasized that this naval construction is being accomplished by domestic Turkish industries. And, as other sea powers have done, Turkey is developing educational, cultural, and media institutions to drive public support for its anticipated emergence as a great power on the sea.[18]

The Turks will not be the first state in the region to acquire an aircraft carrier; that honor goes to Egypt. The Egyptian navy also has expanded its fleet considerably over the past decade, including by acquiring several German-built submarines. France had built two *Mistral*-class helicopter carriers for Russia but canceled their delivery in response to Russia's 2014 seizure of Crimea. Egypt stepped in to buy the two ships, which it now operates as *Gamal Abdel Nasser* and *Anwar el-Sadat*.[19]

Israel also is in the process of updating its fleet, as part of its turn to the sea. Most importantly, it is acquiring a new class of German-built corvette, the Sa'ar 6, which will be the most advanced surface vessel in the Israeli fleet. Israel also is updating its older Sa'ar 4.5 and Sa'ar 5 corvettes, and it has acquired very capable *Dolphin 2*–class submarines from Germany as well.[20]

On top of these local developments, several outside powers have become increasingly involved in the eastern Mediterranean region. The European Union and the United States have criticized Turkish actions harshly and have come down strongly in support of the Israeli-Cypriot-Greek energy triangle as well as the Egyptian-led East Mediterranean Gas Forum. In the summer of 2019, an influential, bipartisan group of U.S. senators and representatives introduced the Eastern Mediterranean Security and Energy Partnership Act of 2019, which codifies American support for Greece and Cyprus at the expense of Turkey. It also offers military aid to both Cyprus and Greece. Then, in October 2019, Secretary of State Michael R. Pompeo flew to Greece to announce plans to expand

the U.S. naval presence there and to turn Greek bases into an alternative to Turkish bases for American operations. He also announced a deal to develop supply channels to NATO allies in eastern Europe that run through Greece rather than along the historical routes through Turkey. Pompeo made clear "that operations in international waters are governed by a set of rules" and that "[w]e've told the Turks that illegal drilling is unacceptable."[21] This language, along with the expanding American military presence in the region, can only be read in Ankara as a tacit threat.

On the other side, Turkey is not the only country that is being cut out of the new gas deals. Russia has its own pipelines, through which it supplies over 50 percent of most European Union states' gas needs. Thereby Russia can hold European energy markets hostage, and in the past Moscow has used these pipelines to exert political influence on the continent.[22] Any eastern Mediterranean gas deals that cut out Turkey and Russia not only would hurt those two countries financially but would threaten their geopolitical positions. Unsurprisingly, the gas deals have pushed the two countries closer together and facilitated already-budding defense cooperation between them. Some analysts have begun to speculate that Russia might back Turkey not only politically but militarily in the growing regional disputes, including over gas in the eastern Mediterranean.[23]

Finally, Iran has sought to establish a corridor to the Mediterranean to support its allies and proxies in Syria and Lebanon. The most important Iranian asset in the Levant is Lebanese Hezbollah, which looks to Tehran for both religious and political guidance. Lebanon, which is increasingly dominated by Hezbollah, hopes to discover its own gas fields in its EEZ. Lebanon has an unresolved maritime border dispute with Israel; although this does not affect Israel's proven gas fields, it would affect future exploration. Hezbollah, for which Iran is helping to build irregular naval capabilities in the eastern Mediterranean, rejects Israel's existence and has threatened Israel's offshore gas infrastructure.[24] As the civil war in Syria winds down, both Iran and Russia are likely to use their gains in Syria to play a larger role at sea in the eastern Mediterranean. This almost certainly will raise regional tensions.

In sum, the stakes for Israel in the eastern Mediterranean are high. The discovery of gas has reconfigured geopolitical alignments, pitting Israel, Cyprus, Greece, Egypt, the European Union, and the United States against Turkey, Russia, Syria, Iran, and Hezbollah. The rising tensions already have been militarized, and unresolved disputes over waters with billions of dollars of gas under them easily could turn into open conflict.[25] Israel possesses one of the most powerful militaries in the region, but traditionally it has not been a sea power. Whether it can and will turn to the sea will have important implications for this highly volatile region. Yet, if history is a judge, Israel will need to do more than buy new naval

platforms; a true turn to the sea will require a major shift in Israel's national and strategic culture.

SEA POWER AND CULTURE

The relationship between culture and sea power is not new, and it is not limited to Israel. Over a century ago, the American strategist Alfred Thayer Mahan famously laid out six elements of sea power. Most of those elements dealt with ports, population size, geography (Switzerland will never be a sea power), and the willingness of the government to support a navy. However, one of Mahan's elements (number five on his list) dealt with a more amorphous subject: "national character." As Mahan argued, a state can have all the attributes of a sea power, but if its people lack a certain national character that pushes them toward the sea, that state will have difficulty achieving its interests in that domain.[26] It would be easy to dismiss this aspect of Mahanian sea power as rooted in racial and racist ideas of the later nineteenth century; indeed, Mahan's contemporaries openly discussed certain races as being inherently better suited for the sea.[27] It is unclear to what extent these racial notions influenced Mahan, but even if they did they are not the only way to interpret his concept of national character.

National character just as easily can be viewed through the lens of culture, and more-recent sea-power theorists have done just that. Geoffrey Till points out that, since ancient times, seafaring communities have developed a distinctive culture—one that can be found across both time and space all over the world. He gives an example of the Vikings having it in their "spirit of adventure, enterprise, curiosity, and greed."[28] Likewise, the retired USN admiral turned sea-power intellectual James G. Stavridis describes the "uncertainty and sense of adventure" that "sailors have felt going back two thousand years or more."[29] These sentiments are remarkably similar to the "healthy excitement of exploration and adventure" that Mahan argued is an important element of the national character needed for sea power.[30] Andrew Lambert, one of the most accomplished naval historians currently active, goes even further; in fact, he criticizes Mahan for not putting enough emphasis on the cultural aspects of sea power. He argues that sea power requires "actively constructing a cultural identity focused on the sea." Historically, sea powers not only built ships and ports but infused their cultures with nautical themes. Their art, architecture, and public spaces highlighted the role of the sea in the national character, and, as Lambert shows, eventually "this consciously crafted identity spread beyond elites and interested parties: it flowed into popular culture, pottery, coins, graffiti, books, printed images, and, by the 1930s, cinema."[31]

In some sense, sea-power culture is a necessary but artificial social construct for states that want to dominate the water. It is necessary because most people

are not naturally inclined to focus on the sea; after all, they live on the land, and their most immediate interests—and their military objectives in times of war—most often are on land rather than at sea.[32] Moreover, navies are expensive and take considerable time to build. Sea powers require not only ships and sailors but shipyards, ports, and skilled engineers. At best, these requirements take decades to produce. Navies also require manpower that is more technically skilled than what armies require, which means it is more difficult for a navy to rely on reserve forces or a draft to fill its ranks. As a result, it is much more difficult to create and maintain navies than ground forces.

Leaders promoting sea power, therefore, need to spend considerable effort to convince their people that they should invest limited resources in a sea service. For example, when Theodore Roosevelt, who was heavily influenced by Mahan, wanted to build American sea power, he spent considerable time and effort raising public support for the U.S. Navy—for instance, by sending the Great White Fleet to circumnavigate the globe in 1907–1909.[33]

Roosevelt also created naval heroes onto whom the public could latch.[34] In 1905, Roosevelt had the body of the Revolutionary War sea captain John Paul Jones exhumed from a long-forgotten grave in Paris. Jones's body was returned to the United States, where it was reinterred, with great public fanfare, in a massive tomb on the grounds of the U.S. Naval Academy.[35] Jones was a genuine war hero, but after the Revolutionary War he left the United States to serve in the Russian navy and died in obscurity in France. As a recent biographer of Jones has argued, one of the reasons he was "resurrected" was that "Teddy Roosevelt needed a hero."[36] Roosevelt understood that creating such heroes was essential for building among the masses a culture of sea power that would support his naval ambitions. He was right; throughout history, people lacking admiration for the sea have resisted government efforts to build sea power. Therefore strategies to build sea power often are controversial; at times they can rip apart a state's political leadership, sometimes literally—in the seventeenth century, the Dutch sea-power enthusiast Johan de Witt was "torn to pieces in the streets of the Hague" by those who were tired of his focus on the sea and wanted to return to their land-based interests.[37]

The difficulties in building sea power for a country such as Israel are compounded by the distinction between large and small navies. If a state cannot or will not invest enough to become a full-fledged sea power, its navy almost immediately faces several problems. Seafaring requires numerous, technical skill sets, but if a navy has only a few ships it often is difficult for sailors to get enough time at sea. Even for those who do, the opportunities for career progression and senior leadership are limited. Thus, it becomes difficult to retain the most talented sailors. Moreover, because there are only a few senior positions in small navies, the departure of leaders has an outsize effect.[38]

Relatedly, as Till points out, "[n]avies survive and prosper partly through their ability to have an appreciable impact on the defence decision-making processes which define a country's maritime policy." But with few senior officers, "there are fewer people with the necessary professional experience to influence, even help shape, policy at the national level." As a result, national policy "becomes less likely to serve naval purposes. Instead, the navy simply gets told what its policy is."[39] Such a situation clearly is not ideal for addressing predominantly maritime problems.

Finally, navies in non-sea-power states face problems with economies of scale. The fewer ships a state has, the costlier each individual ship is to produce, maintain, and refit and the more expensive it is to train and equip the sailors who man them. As a result, such states often are forced to outsource production and professional military education. In many cases, this reliance on other states can limit the strategies and policies of non–sea powers severely because their allies hold significant leverage over them. Moreover, non–sea powers with small navies often need to choose between spreading their limited resources thinly over a wide range of capabilities and building real competency in a limited number of areas while hoping that their allies will fill in the gaps. Neither approach is ideal, and the latter choice likewise exposes small navies to strategic constraints imposed by their partners.[40]

Almost all the problems associated with small navies and a lack of sea-power culture have hindered the development of the Israeli navy. These obstacles likely will persist in the future.

THE SEA, THE LAND, AND THE GEOGRAPHY OF ZIONIST IMAGINATION

In contrast to the culture of sea power, the Zionist ideology on which the modern state of Israel was founded is rooted deeply in interests on the land. Zionists traditionally have read Jewish history through the relationship between the Jewish people and Eretz Yisrael (the biblical Land of Israel). Such a reading of history aligns with a general perception that Jews are not a seafaring people.[41]

Of course, such reductive narratives are not as straightforward as their proponents suggest. Over the past few decades, a stream of revisionist scholarship has uncovered or given new emphasis to Jewish experiences related to the sea. Jews have traveled, explored, and made their living on the sea from ancient times until the present.[42] In contrast to popular perceptions of Jews as meek, city-dwelling scholars and merchants, there were even some swashbuckling Jewish pirates in the Caribbean.[43]

Therefore the Zionist focus on land represents a constructed identity rather than the articulation of an innate characteristic of the Jewish people. This does

not make Zionist narratives any less powerful in shaping the national ethos of modern Israel. To understand that ethos, and the obstacles it presents to creating sea power, it is necessary to detail how and why Zionist narratives about the connection between Jews and the land were created.

Throughout Jewish history, one finds a longing for a return to Eretz Yisrael, and across the centuries numerous Jews acted on that impulse. However, modern forms of political and cultural Zionism have their roots in nineteenth-century Europe, where the place of Jews, never completely secure, became increasingly dire. The rise of European nationalism and Romantic ideas about a *Volk* rooted in the land threw into sharp contrast stereotypical depictions of "the wandering Jew," who spoke a different language (predominantly Yiddish), ate different (kosher) food, adhered to peculiar customs, and claimed roots in the Middle East. Some Jews sought a solution to their predicament by creating a nation-state of their own in what they considered to be their ancient homeland. In the second half of the nineteenth century, this movement became known as Zionism.

In addition to the political goal of creating a Jewish state in Jews' perceived homeland, Zionism also developed a cultural component. Zionists attempted to fashion what they called the "new Jew," who contrasted sharply with the stereotypical Diaspora Jew. Once Jews returned to their homeland, Zionists would work in industries such as agriculture. Toiling in the fields would develop physically strong bodies and root these new Jews in their land. This rootedness, according to Zionist ideology, would solve many of the problems Jews had faced as perennial outsiders in every land they had inhabited since the Roman Empire exiled them from Judea.[44] Yet this desire for rootedness was in direct conflict with the veneration of wanderlust, exploration, and adventure that normally accompanies sea power.

Zionists' desire to be rooted in a homeland dovetailed with their reading of biblical history. The heartlands of ancient Jewish kingdoms were located among the inland mountains and valleys of ancient Judea, Samaria, and the Galilee; the coastal areas largely were controlled by Philistines, Greeks, and Phoenicians. Thus, as one might assume, the ancient Israelites were concerned far more with the land than the sea.

The Bible discusses land and agriculture extensively; it is far less concerned with nautical matters. This focus on the land is reflected not only in biblical narratives but in the content of the ancient Hebrew language itself. Although the Hebrew Bible discusses warfare at length, it does not even provide a word for *navy*. When modern Zionists turned to ancient Jewish texts for other nautical terms, they struggled to find them. They had to invent terms such as *ma'agan* (anchorage), *hashaka* (launching a ship), *saver* (dock worker), and *shayit* (sailing).[45] By

contrast, biblical Hebrew is infused with vocabulary linking the ancient Israelites to the land. At the most basic level, the Hebrew words for land/soil *(adama)* and man *(adam)* are closely related. In root-based Semitic languages such as Hebrew, this relationship is much more meaningful than it would be in English—it suggests a common essence.

Modern Zionist culture did not grow organically from a deterministic biblical past. However, when Zionists wanted to tie themselves to a land, it was not difficult for them to find justifications in biblical history, and as Zionism developed, politically and culturally, its proponents increasingly emphasized the links between Jews and the land—between *adam* and *adama*. Thus, writing in 1919, the influential Zionist intellectual Harry Sacher wrote, "The idea of Judaism is inseparable from the idea of the Jewish people, and the idea of the Jewish people is inseparable from the idea of the Jewish land." He tied together religious, political, cultural, and linguistic themes, referencing Jewish sages, and arguing, "The cultivation of the Hebrew tongue is as natural as the cultivation of the land."[46] The *kibbutzim* (plural of *kibbutz,* a collective agricultural settlement), in which the Zionist "new Jews" tilled the soil, featured heavily in the early Zionist literature.[47] Hebrew writers wrestled with overcoming the image of the diasporic wandering Jew and putting down roots in the land.[48] Early Zionist art and photography dealt with similar themes. In 1935, the first Hebrew-language movie, *Zot Hi HaAretz (This Is the Land),* explored images of *adam* and *adama*.[49] The celebration of the new Jew, who developed his mind and body by pouring blood and sweat into the soil of his homeland—making the "desert bloom"—permeated popular culture. A line from a folk song that later became a type of national slogan proclaimed "Anu banu artzah livnot ve-lehibanot bah" (We came to the Land to build and be built by it).[50] Similarly, a 1937 poem that, when put to music, became an "unofficial anthem" for Zionists' agricultural settlements captures the emotions tied up in the return both to an ancient homeland and to working the land.[51]

Watch, look, and see
How great this day is
Fire glowing in the chest
And the plow
Again tilling the field.[52]

Of course, Zionist thought could not ignore the sea completely. Most Jews had to travel by sea to reach Eretz Yisrael, and a subset of Hebrew literature emerged representing that experience.[53] However, as often as not the sea was simply "a barrier that had to be crossed before arriving at the shores of the new country"; it was not essential for building a new national identity.[54] There were no portrayals of the sea

in early Zionist culture that could compete with the place of the land in the emerging national consciousness.[55] As one scholar of Zionist culture put it, "The history of Zionist efforts to elaborate the dialectical relation between Jew and land in no small measure defines the entire history of the movement between 1881 and 1938."[56]

ISRAEL'S REPEATED TURNS TO THE SEA

The overwhelming focus of early Zionist culture on the land rather than the sea did not align with the geographic realities of Jewish settlement. In the biblical period, to which Zionists looked for inspiration, Jewish populations, as noted, were concentrated in the interior mountains, while non-Jewish populations were concentrated along the coast. By contrast, while some modern Zionist Jews settled in and around the Jerusalem highlands, most settlement occurred in an N-shaped pattern up the coast, diagonally southeast through the Galilee, and then north around the Sea of Galilee into the Hula Valley. The main Jewish population centers, such as Tel Aviv (founded in 1909), were on the Mediterranean coast.[57] The gap between the imagined geography of Eretz Yisrael and the geographic reality of Zionist settlement created a type of cognitive dissonance. For example, a 1939 short story written in simple Hebrew for new immigrants depicts the surprise of a Jewish refugee from Europe when he arrives in Tel Aviv. He was in "the land of the Patriarchs, the revived homeland," but "[h]ere, on the beach . . . everything was so ordinary, just like in Europe." The idea of the ancient land that he expected contrasted sharply with the Mediterranean reality of his new life.[58]

These geographic realities gradually began to impose the sea on the Zionist movement, and in the 1930s one finds the first claims that Zionists had turned to the sea. During this period, Zionists opened a Jewish-run port in Tel Aviv, developed fisheries, formed maritime leagues, inaugurated a nautical school in Haifa, and established private shipping companies.[59] In 1938, Raphael Patai added intellectual weight to this project when he published a book in Hebrew on ancient Jewish seafaring. The book was based on a doctoral dissertation that completed the first PhD that the Hebrew University of Jerusalem had awarded.[60] David Ben-Gurion, who emerged as the most important Zionist political leader at this time, realized that the Zionists' almost-exclusive focus on the land was misaligned with the strategic imperatives of the developing Jewish state. Not only was the sea a geographic reality that forced itself on the Jewish settlements clustered along the coast, but as the surrounding Arab states emerged from colonial empires Israel became a geostrategic island. Thus, the sea became the only outlet Zionists had to the rest of the world. Ben-Gurion therefore argued, "The conquest of the soil by city people was the great, first adventure of our movement, of our endeavour in the country. A second adventure, great also, and perhaps harder than the first, still awaits us—the conquest of the sea." For Ben-Gurion, the Mediterranean was

"the natural bridge that connects our small country with the wide world. The sea is an organic, economic, and political part of our country." This being the case, "[t]he road to the sea is a way to expand our country, to augment our economic base, to strengthen our national health, to enforce our political position, to dominate the elements."[61] At the time, Zionist leaders presented the "conquest of the sea" as the third pillar of Zionism, along with "redemption of the land" and "revival of the soul."[62] By 1945, in recognition of their geographic situation, the Zionists overcame considerable political challenges to establish the shipping company ZIM. This commercial shipping capability would prove crucial in safeguarding Israel's trade in the decades ahead, and ZIM eventually developed into one of the world's leading shipping lines.[63] As a result of these developments, a historian of modern Israel has argued recently that the prestate Jewish movement went through a "maritime revolution" during the 1930s and 1940s.[64]

Yet despite this supposed turn to the sea, in 1948 a newly independent Israel found itself completely unprepared in terms of resources, training, equipment, and—just as importantly—mentality to confront the challenges it faced at sea during its war of independence. Following World War II, Jewish communities in Israel developed a naval militia called the Palyam, and Zionists—with a great deal of help from both Jewish and non-Jewish sympathizers abroad—smuggled Holocaust survivors past a British blockade in a program known as Aliyah Bet. The most famous of these Aliyah Bet ships was *Exodus,* which the British boarded. They killed and injured several passengers and sent the Holocaust survivors back to Europe.[65]

As independence neared, Zionist leaders attempted to turn these initiatives into a national navy. As one member of the Palyam later recalled, the leadership brought him and other members into a meeting and "informed us that we were no longer the Palyam; we were now the Israeli Navy."[66] The Jews had a hundred miles of coast to protect, in addition to their shipping. Yet while Palyam members were dedicated and daring, they were trained and equipped only to carry out small commando raids; they did not possess the technical knowledge to run a navy. In addition to their lack of ship-handling experience on large vessels, they had no experience in the command and control that is essential for naval operations.[67] In a sign of how desperate the Israelis were for competent naval leadership, Ben-Gurion cabled a Zionist office in New York, asking it to send a twenty-six-year-old Jewish American named Paul N. Shulman. Shulman had graduated from the U.S. Naval Academy and had fought on a destroyer in the Pacific during World War II. Despite his age, Ben-Gurion wanted him to command HaSherut HaYami (the Sea Service), which is what the Israelis called it at the time, because they had not settled on a Hebrew word for *navy* yet. Shulman recruited several other American Jews with naval experience to take key jobs that

the Israelis could not fill. Jonathan Leff, who was one of Shulman's classmates at Annapolis, became head of the Department of Ordnance and Gunnery of the Sea Service; Harold Gershenow, who had served as a ship-repair officer in the U.S. Navy during World War II, was brought to Israel to rebuild and operate the Bat Galim port at Haifa; Harold Shugar, who had served as a gunnery officer in the American navy and happened to be studying abroad at the Hebrew University of Jerusalem when the war broke out, was recruited to be the gunnery officer on the Israeli flagship.[68] The head of the Palyam became Shulman's deputy, and together they opened a training program at Haifa.

Yet despite the turn to the sea that supposedly had occurred over the preceding decade, the land-focused leadership of the Israel Defense Forces did not prioritize the sea and did not attempt to use it strategically. Its members derided Shulman's force as "the bathtub corps." The navy had only three real ships: two former Canadian corvettes and a former U.S. Coast Guard icebreaker. The icebreaker, renamed *Eilat,* became Shulman's flagship. None of these ships was armed, so the Israelis mounted a 1906 French army field-artillery piece on the deck of *Eilat*.[69]

The fledgling Israeli navy had difficulty convincing the national leadership to provide it with resources. Of course, the new state had limited assets it could offer the navy, especially in wartime, but the lack of available funds only partly explains the failure to support the navy. Money was available, but the civilian leadership saw no use in spending it on the sea service. The official responsible for the navy at the Ministry of Defense, Gershon Zak, had a background in education administration. Zak rejected Shulman's repeated requests for funds to build a communications station, so Shulman asked for money for a cultural center. This request was more aligned with Zak's interests, and it was approved. Shulman then "misappropriated" the funds to build the communications station.[70] This would not be the last time that Israeli naval leaders misled or ignored their superiors outside the sea service to accomplish their missions and protect the vital interests of the state.[71]

The Israeli navy did achieve a few important successes during the war. Most importantly, a commando raid carried out via a small boat launched from Shulman's flagship sank the Egyptian flagship, *Emir Farouk*.[72] Yet the Israeli navy never was used to its full potential. Many Israelis saw Shulman, who was the most competent naval officer, as a typical Diaspora Jew rather than the "new Jew" of the Zionist project. He was forced to step down following the war and largely was written out of Israeli history.[73]

Following Israeli independence, the national ethos remained firmly rooted in the land. In a major cultural landmark, the first play performed in the new state was Moshe Shamir's highly acclaimed *Hu Halakh ba-Sadot (He Walked through the Fields).* It later was transformed into a successful Hebrew movie. As the title

indicates, the plot revolves around life on a kibbutz, with all the resulting imagery of *adam* and *adama*.[74] Probably the most important influence on postindependence Israeli culture has been the writings of Amos Oz, who burst onto the Hebrew literary scene in the 1960s with a collection of short stories describing life on a kibbutz.[75] The relationship between Zionist Jews and the land permeated his career.[76] In recent decades, agriculture and kibbutzim have lost their central role in Israel, but they remain an important part of the state's founding myth, as well as a cultural force. For example, Oz ultimately cemented his place in Israeli literary history with a 2002 memoir about his own journey as a boy from the life of a city Jew in Jerusalem to a truly Zionist life on an agricultural collective. Notably, when he left the city and rooted himself in the land he changed his surname from the Yiddish Klausner to the Hebrew Oz, thus completing the Zionist transformation. The book made a tremendous impact, and in 2015 the Israeli American actress Natalie Portman transformed it into a Hebrew-language movie in which she played a central role, that of young Amos's mother.[77]

As one might expect, this continued cultural affinity for the land affected the resources and attention that the young Israeli navy received from the state. As one prominent Israeli defense analyst has noted, in the first few decades of Israel's statehood "[t]he [Israel Defense Forces] headquarters had little understanding of naval needs and was not inclined to divert scarce funds to a service considered to be of secondary importance."[78] In the 1950s, the Israelis attempted to build a navy around capital ships (mostly British destroyers) and they purchased WWII-era British submarines. However, the destroyers proved too expensive to man and run. Moreover, they failed to achieve Israeli objectives at sea. Following the 1948 war, Egypt closed the Strait of Tiran to Israeli shipping, which blocked passage from Israel's southern port of Elat to the Red Sea. Egypt also prevented Israel from using the Suez Canal. These actions cut Israeli ties with Asia and hindered the development of its southern Negev region, which was a priority for Ben-Gurion.

Reopening the strait and Israel's access to the Red Sea became one of the country's main objectives when it joined Britain and France in the 1956 war against Egypt. Israeli forces raced down the Sinai Peninsula and captured Sharm al-Sheikh, which overlooks the strait. Israel then made opening of the waterway a key provision for handing the territory back to Egypt, and it took the opportunity to send a few Israeli navy ships through the straits to Elat. Under intense American and international pressure, Israel withdrew from the Sinai without clear Egyptian acquiescence to Israel's right of passage by sea. Subsequently, only foreign ships were allowed through the straits; if an Israeli ship wished to pass, it needed to fly a false flag. The Israeli warships that transited to Elat during the crisis remained bottled up there until the 1967 war. Therefore the Israeli navy was not able to secure sea lines of communication for vital Israeli shipping (which by

the 1960s included much-needed oil shipments from Iran). When Egypt decided to close the straits completely in 1967, Israel had no naval option to open them.[79] In such situations, states with small navies often rely on alliances with sea powers, and the Israelis turned to the United States. However, while the Americans were supportive, they were tied down in Vietnam, and they could not muster international support to force the issue.[80] To regain access to the sea, Israel was forced into a general war rather than a more limited naval action.

The year 1967 was a low point for the Israeli navy, for several reasons. It largely missed out on the celebrated actions of what Israelis call the Six-Day War in June. Other than some small commando raids, the only major action the Israeli navy took was to attack USS *Liberty,* an American signals-intelligence-collection platform. Several dozen Americans were killed or injured in the attack. The Israelis insist the attack was a mistake, but it remains a contentious topic for some in the U.S. Navy today.[81] Later in the year, the Israeli destroyer *Eilat* was sunk by a Soviet Styx missile fired from an Egyptian missile boat. Then, right after the New Year, an Israeli submarine on its maiden voyage from England to Israel disappeared along the way.[82]

Fortunately for the Israeli navy, brighter days were on the horizon. Israeli navalists understood the critical national interests Israel had at sea, yet the state provided them relatively few resources. Yet as the adage states, necessity is the mother of invention, and in the mid-1960s Israeli naval officers developed a bold plan to scrap Israel's destroyers and replace them with heavily armed missile boats. No Western navy relied on missile boats at the time, so this was a fairly radical plan—even more so because when the Israeli navy decided on this course, it had yet to develop a surface-to-surface missile and it had no platform on which to put it.[83]

Eventually, the Israelis developed the Gabriel missile and the Germans agreed to build them a modified version of their *Jaguar*-class fast-attack craft. As theorists of small navies have argued, reliance on foreign procurement can be problematic because it ties strategic assets to the whims of international politics, and that proved to be the case for Israel and its missile boats. The Germans worried that the Arabs would boycott them if it became public that they were building missile boats for Israel; however, the Israelis were able to convince Germany to allow the French to build the German boats in the port of Cherbourg. Because of the war in Algeria, the French were out of favor with the Arabs anyway, so they did not face a diplomatic threat.[84]

But before the boats were completed, the international political winds shifted. Following the French withdrawal from Algeria, President Charles de Gaulle attempted to mend ties with the Arab states, and Israel was left in the lurch. The French imposed an embargo on arms to Israel, which meant they would not

permit Israel to take possession of the new missile boats on which its entire naval strategy depended. In a major scandal at the time, the Israelis tricked the French into thinking they had sold their rights to the boats to a Norwegian shipping company. Then, on Christmas Eve 1969, the Israelis escaped with the boats into a storm in the English Channel. Israeli officers and crew, many of whom had been hiding belowdecks in the French harbor, piloted the boats back to Haifa, refueling at sea from modified Israeli merchant ships and dodging the French, Soviet, and Egyptian navies along the way.[85]

Once in Israel, the boats were fitted with the Gabriel missile system. The Gabriel's range was far shorter than that of the Soviet Styx missile, which the Egyptian and Syrian navies used. This meant that the Israeli boats would be shot out of the water before they fired their own missiles at their adversaries. Again, necessity bred innovation, and Israeli engineers developed a revolutionary electronic-warfare system, mostly using chaff, that was able to spoof the Styx missiles and allow Israeli ships to operate within their range.[86]

During the 1973 war with Syria and Egypt, the Israeli missile boats performed beyond all expectations. In the battle of Latakia, Israeli and Syrian boats engaged in history's first missile battle at sea. The Israeli boats were able to operate safely within the range of the Soviet missiles and they sank all five of the Syrian boats that took part in the battle. Later in the war, the Israelis repeated their successes against Egyptian missile boats in the battle of Baltīm. Over the course of the war, the Egyptians and Syrians fired over fifty missiles at the Israeli boats, but none hit their targets; by contrast, the Israelis were able to sink any Syrian or Egyptian vessel that ventured out of port. The Israelis used this command of the sea to bombard strategic targets on the Egyptian and Syrian coasts as well as to ensure the vital resupply of weapons by sea from the United States.[87] In addition to these victories in the Mediterranean, Israeli naval commandos achieved important victories around the Sinai and the Red Sea.[88] As a result, some have heralded the acquisition of these missile boats as a turning point for the Israeli navy.[89]

However, this turning point should not be misconstrued as signifying a new age for the Israeli defense establishment's relationship with the sea. While the Israeli navy did achieve a number of stunning successes in the war, those successes came *despite* the fact that Israel's political and military leadership was inept at using the sea service. David Elazar, the chief of staff of the Israel Defense Forces, planned to use the navy in the war simply to "defend essential targets along the length of the state's coast and to be on alert to transition quickly to attack the enemy on the sea and in the ports."[90] Basically, all he wanted the navy to do was prevent Egyptian or Syrian boats from coming close enough to launch their missiles at the Israeli coast. On the first night of the war, he ordered Benjamin Telem, the commander of the navy, to recall a naval force that was heading north toward

Syria; he did not want the navy to get into a situation that would have required the diversion of land or air forces. Telem, in a daring—and potentially career-ending—move, chose to ignore the order. The force in question won the battle of Latakia and shaped the war at sea—but it did so *in defiance of* Israeli military leadership, not *because of* it. Elazar later admitted, "I underestimated the navy."[91]

While the more than doubling of Israel's coastline resulting from the 1967 war forced the state to provide the navy with more assets, even this did not occur without a fight. The government rejected the navy's additional request to build a fleet of landing craft following the 1967 war. Israeli navalists regarded this decision as "a grave blunder," and because of it the army faced significant difficulties crossing the Suez Canal during the 1973 war. As Efraim Inbar has stated, "The government was still ground-oriented and not inclined, either by doctrine or budget, to approve large amphibious operations."[92] The war exposed other problems with the navy as well. Although the Israelis controlled the Strait of Tiran, the Israeli navy could not prevent the Egyptians from blockading the Bab el Mandeb choke point at the southern end of the Red Sea, essentially cutting off Israel's connections with Asia and Africa. The Egyptians also successfully mined the Strait of Jubal in the Gulf of Suez. By doing so, they cut off Israeli oil supplies from Abu Rudeis. This highlighted the Israeli navy's inability to minesweep.[93] Moreover, it should not be forgotten just how close Israel was to not having its missile boats because of its diplomatic situation; although the Israelis managed to smuggle the boats out of France in the middle of the night, it was a close-run thing, and the operation could have been upended in numerous ways. It certainly is not a model to be replicated.

Nevertheless, the war did demonstrate, even to those who did not understand the service fully, that the Israeli navy could play a constructive role. Although Israeli political and military leaders have remained wary about pulling resources from land and air forces over the years, several optimistic navalists have argued repeatedly that Israel finally is turning to the sea. Such claims have come every decade since the 1970s. In the 1980s, Efraim Inbar argued that Israel reached a new phase in its relationship with the sea after the navy won a hard-fought, multiyear battle to enact a reform and modernization program, which included the purchase of American-built Sa'ar 5 corvettes, which were considerably larger than the missile boats on which Israel had relied since the 1960s.[94] Other scholars argue that, although for "most of Israel's seven-decades-long history the sea did not play a significant role in Israeli security, energy market, or development policies, . . . beginning in the 1990s, Israeli decision makers turned their attention to the sea." These scholars state that this turn to the sea was tied to an accumulation of issues such as fisheries, environmental concerns, desalination, offshore energy, and the development of seaports; together, these and other interests created a

critical mass that finally pushed Israel to the sea.[95] Another analyst claims that Israel finally began to take the sea seriously in 2006, when Hezbollah hit the Israeli corvette *Hanit* with an Iranian-supplied cruise missile.[96] And finally, there are the claims that, after decades of neglect, signs of Israel finally turning to the sea include the discovery of offshore gas fields; the new alliances with Greece and Cyprus; and the purchase of a new, larger class of Sa'ar 6 corvettes from Germany.

Arguments supporting Israel's various supposed turns to the sea have highlighted the very real progress the Israeli navy has made over the past few decades. However, each step forward has been a struggle, and despite some advances Israel has not resolved its strategic maritime issues. A 2018 report on the Israeli navy argues that "[t]he Israeli Navy currently has far fewer corvettes and fast attack craft than it requires, and almost all of these have never been fully outfitted with their designed number of fire-control systems." In addition, limited missile reloads for Israel's otherwise very capable submarines limit their ability to act as a deterrent.[97]

Moreover, while Israel has developed its naval shipbuilding industry, the Israeli navy continues to rely on foreign sources for its capital ships and submarines, which means its future fleet relies on a favorable diplomatic landscape.[98] Support for Israel remains controversial in many states. Recently, even in the United States—which traditionally has been Israel's greatest supporter—some political factions have questioned the American relationship with the Jewish state. Until Israel resolves the Palestinian issue, it likely will face continued international political opposition that easily could hinder its procurement of future platforms or limit its strategic options at critical times. Until Israel develops the capability to produce, maintain, and man a large fleet independently, these strategic constraints will continue to hinder its attempts to become a sea power.

Then there is the fact that the Israeli defense establishment, as well as its political leadership, still is dominated by officials who have limited knowledge of the sea or naval operations. In October 2019, this land-focused defense establishment proposed canceling part of Israel's naval buildup and reallocating the funds to ground forces and air defense.[99] As these examples show, planned expansions to, or even maintenance of, the existing Israeli navy will continue to be a struggle.

As a high-profile 2016 report states, "It is . . . impossible to overstate Israel's interests in maritime security. Yet, surprisingly, the maritime domain is almost absent from public discourse in Israel, a nation not known for its maritime culture or history."[100] Classic sea-power theory would argue that it will be difficult for Israel to provide the sustained resources necessary to secure its maritime interests under those circumstances. If Israeli leaders are serious about building sea power, they probably need more than a few new ships. To build the national

expertise and devote the resources required for creating sea power, Israel will need to develop popular support for such projects. To do so, it will need to infuse Israeli society with maritime culture. Considering Israel's history, that will not be an easy task.

If history is a judge, the Israeli navy will have difficulty meeting the challenges it faces. While Israel may be devoting more resources to its navy, others are too—the eastern Mediterranean currently is in the midst of a naval arms race. The Egyptian and Turkish navies already dwarf Israel's in terms of size. Not only are they both rapidly expanding quantitatively, but they are moving toward aircraft carrier–based fleets. The Russian navy also has shown an increasing interest in the area.

Additionally, if Israel weds its energy interests to an undersea pipeline running to Italy and beyond or to LNG shipments from Egypt to Europe, Israel's critical maritime interests will extend hundreds of miles from its shore; this will be a major change for a navy that so far has been concerned with defense of Israel's two-hundred-mile EEZ.

Thus, even an Israeli navy that can meet today's challenges likely will be inadequate in the near future. Israel will need to devote even more resources to its fleet.

NOTES

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THE 1988 BLUES

Admirals, Activists, and the Development of the Chinese Maritime Identity

Andrew Rhodes

The year 1988 marked a critical moment in China's emergence as a maritime power. The seven months from February to August 1988 saw not only a major naval campaign in the Spratly Islands but also the startling cultural phenomenon of 河殇 *(Heshang,* or *River Elegy),* a multiepisode television documentary that called on China to turn away from tradition to embrace a maritime identity.[1] The prodemocracy creators of *Heshang* and the People's Liberation Army (PLA) Navy (PLAN) leadership had little in common in terms of how they thought China should be governed, but there is a surprising overlap in the way the two groups were "selling the sea," or seeking to forge a more maritime future for China.[2] These two parallel stories highlight an important but overlooked historical moment in the evolution of China's maritime identity and its commitment to maritime power.

In China in 1988, several trends were building to a dramatic, and ultimately violent, crescendo, with major implications for Chinese society and China's place in the world. A decade after the launch of Deng Xiaoping's economic reforms, the movement that sought democratic political reforms and a new Chinese culture was developing powerful momentum and ties to the outside world—only to meet tragic suppression a year later at Tiananmen Square. At the same time, the PLA, and the PLAN in particular, was in the midst of its own reform and new engagement on the global stage. Consideration of the intersection of the cultural and political history of 1988 with the military and naval history of 1988 has focused—understandably—on

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the path to June 1989. But there are intriguing parallels, beyond mere coincidence, in the cultural and naval events of the spring and summer of 1988 that provide a new lens for viewing the relationship between Chinese culture and Chinese sea power.

Thirty-two years is not long in the grand sweep of naval history or Chinese history, but the rapid pace of PLAN development in the twenty-first century makes 1988 seem rather like the ancient past. The late 1980s are within the living memory of many scholars and strategists, but too few remember the events of 1988 and the global, regional, and national context in which they took place. For most Americans, the China of 1988 hides behind two veils—the Tiananmen Square massacre and the end of the Cold War—that obscure our view of important historical trends. Many of the key trends the world confronts today grew from seeds that already were germinating, in very recognizable ways, in 1988. A closer examination of 1988 suggests, for example, that the campaign begun in 2014 to build artificial islands in the Spratly Islands had unprecedented scope but emerged from actions driven by the "maritime mentality" and specific naval actions of 1988.[3] Revisiting *Heshang* reveals how PLA leaders in the Xi Jinping era have echoed the language of 1988's prodemocracy activists. The PLAN commander in 2014 wrote that China had suffered in the past because it "clung to the traditional thinking of valuing the land and neglecting the sea," while the 2015 defense white paper called for China to abandon the "traditional mentality that land outweighs sea."[4]

The next section of this article briefly will review key concepts in the literature on maritime identity and sea power, and will suggest taking a nuanced view of China's evolution from a continental power to a more maritime power. Following this theory section, the two subsequent sections will explore the cultural dimensions and historical context in which *Heshang* emerged and the strategic context of the 1988 naval campaign. The final portions of the article will examine the interaction of these cultural and naval events, and how such a consideration enriches our understanding of China's maritime identity. The article will conclude by arguing that the events of 1988 offer clear evidence that China's commitment to sea power has been well under way for more than three decades, and has built on a surprisingly diverse basis of support over that period.

CONCEPTS OF MARITIME IDENTITY AND THE PURSUIT OF SEA POWER

The approach of examining 1988 through both cultural and strategic lenses rests on a strong foundation in the literature on the nature of sea power. Theorists of sea power broadly agree that a nation's geographic, political, economic, and cultural contexts shape its relationship with the sea and sea power. As Geoffrey Till

writes, "seapower is the product of an amalgam of interconnected constituents that are difficult to tease apart."[5] However, some theorists have emphasized the nation's innate characteristics and values that lead to its acquisition and maintenance of sea power, while others have put more weight on the conscious policy decisions of governments to promote and develop sea power.

The argument that sea power emerges directly from national character has been compelling to writers from Thucydides to Mahan and has been well argued more recently by Peter Padfield and Andrew Lambert. In a series of books, Padfield contends that there is a close link between the ability of peoples "ascendant at sea" to prevail over those "with a territorial power base," on the one hand, and the "system of beliefs and of government associated with supreme maritime power," on the other. In such a system, merchant wealth leads to "merchant values" and political structures with "dispersed power and open, consultative rule." In this sense, the impressive voyages of Ming China in the fifteenth century did not represent true maritime power, because they were not profit-driven enterprises but instead merely prestige projects "financed by the imperial treasury." Padfield also underscores the links between the progressive or disruptive culture of new media and maritime power.[6] Padfield focuses on the innovative media of the seventeenth and eighteenth centuries (the novel and the daily newspaper) that promoted the values of the merchant class, producing contrasting bases for maritime power in France, England, and the Netherlands.[7] In 1980s China, television was a similarly new medium that was adapted readily for disruptive cultural arguments.

More recently, Lambert's 2018 book argues that there are no pure "seapowers" in the world today, and history has seen only a small number of true sea powers. Lambert's study of how a nation creates a "seapower identity" makes plain that sea power is a function of cultural factors far more than political, economic, or military ones. In this very broad cultural argument, Lambert states emphatically that the real "soul of seapower" must be sought in the culture of a state, and he chooses to invoke art historians and critics, such as Jacob Burckhardt and John Ruskin, as being more relevant to the matter than Mahan's elements of sea power, which, Lambert argues, address "only the strategic surface."[8]

Jakub Grygiel also considers many centuries of the history of sea power, but in studying ancient China he finds conclusions different from those of Lambert and Padfield. Grygiel's analysis of the Ming dynasty leads him to argue that the Ming retreat from the sea after the voyages of Zheng He "was not a product of deeply embedded cultural values peculiar and eternal to China. Rather it was a historically specific policy that proved to be a costly mistake."[9] In considering modern Chinese grand strategy and the country's ambitions as a rising power, Chinese and foreign scholars have investigated the influence of Mahanian maritime

thinking in China and debated whether a continental orientation—sometimes associated with the geopolitical theory of Halford Mackinder—holds more explanatory power.[10] James Holmes and Toshi Yoshihara find clear evidence of Mahanian tendencies in Chinese leaders since Deng and even some appreciation for naval power in Mao Zedong. But Holmes and Yoshihara also argue that "sea power is a conscious political choice," and they dedicate a chapter of *Red Star over the Pacific* to China's "strategic will to the sea."[11] Several recent Chinese authors, some of them PLAN officers, have pointed to a lack of 海洋意识 (maritime consciousness) or insufficient 海权意识 (awareness of sea power) for China's past defeats, such as in the Sino-Japanese War of 1894–95.[12]

These theorists offer useful frameworks for thinking about the connection between Chinese culture and sea power in 1988, but simplistic cultural arguments fall short where they underappreciate the dynamism of China's national character in the 1980s and how much China's leaders and people willed the nation toward a more maritime future. Lambert may set too high a bar for qualification as a sea power, but his articulation of the ideal serves as a useful reminder that most states exist somewhere on a spectrum between continental and maritime power. Bruce Swanson wrote in the early 1980s that "Chinese naval history over the past millennium has been characterized between two great cultural entities: continental, Confucianist China and maritime China."[13] Indeed, as we will see below, this dichotomy is a central theme of *Heshang*.

However, Lambert is far too dismissive in his assessment that China never will be a true sea power, that its "attitudes towards the sea remain profoundly negative," and that its construction of artificial islands reflects a "Great Wall" mentality that is "the antithesis of seapower identity."[14] Although China was not about to become another Venice in 1988, key cultural and naval moments of mid-1988 challenge Lambert's argument. *Heshang* shows clearly that the prodemocracy activists of 1988 shared Padfield's vision of a close link between democracy and the sea: that Chinese maritime power indeed was "driven by merchant mariners for profit" and not driven by the Chinese Communist Party (CCP) or "by the court for prestige, luxury, and sheer curiosity."[15] Holmes and Yoshihara are right to note Mahanian tendencies among China's leaders, although the 1988 case suggests that this has more to do with Mahan's advocacy for the conscious buildup of naval power than his emphasis on the economic basis of sea power.

The concept of strategic culture knits together the role of national culture and the specific choices a nation makes in pursuit of a strategic goal such as the development of sea power. There are various definitions for *strategic culture* and a healthy debate over the explanatory power of the concept, but thinking about the Chinese strategic culture of 1988—as a "system of symbols" or "modes of thought and action" derived from the "national historical experience"—enriches

our understanding of China's choices and behavior in 1988 and the decades that followed.[16] Of particular note for thinking about 1988, Alastair Iain Johnston describes the value of "cultural artifacts" such as those from the fields of cinema and literature as lenses for examining the roots of strategic behavior and decisions.[17] *Heshang* is just such a cultural artifact; it creates new ways of understanding 1988 as an essential moment in China's long-term development of a maritime identity and its pursuit of sea power.

THE DECADE LEADING TO *HESHANG*

As a cultural artifact, an explicitly prodemocracy documentary on a Chinese state–run television network did not occur in a vacuum; it was the result of a decade of increasing openness in Chinese cultural and political discourse. This spirit had precedent in Chinese history, and many of the intellectuals calling for continued reform in 1988 explicitly invoked earlier moments of openness and forward thinking, such as the Self-Strengthening Movement of the late Qing dynasty. This movement sought to capture foreign knowledge and technology, and leading Qing officials, such as Zeng Guofan and Li Hongzhang, sought to break Western domination of China's maritime economy by importing Western maritime know-how and establishing a Chinese shipping industry.[18] Reformers in the 1980s also harked back to the 1919 May Fourth Movement, which not only launched the modern era of Chinese politics but opened a period "marked by cosmopolitanism and a desperate thirst for things new and foreign." The 1980s saw a similar cosmopolitan thirst. Despite several periods of "conservative backlash"—in 1981, 1983, and 1987—that thirst grew more powerful each time.[19]

Writing just prior to Tiananmen, Ralph Crozier described the dominant cultural theme of China from 1985 to 1988 as "going to the world," as Chinese artists adapted Western artistic forms and sought to create a new Chinese modernism, rather than just recycling traditional Chinese art.[20] The national leadership echoed this external focus in its designation of 1988 as an "International Year of Tourism."[21] The 1987 film 红高粱 *(Hong Gaoliang,* or *Red Sorghum),* which features themes of rejecting the backward and feudal countryside, enjoyed domestic success and became the first Chinese film to win major international prizes.[22] The hands-off approach of the CCP leadership in declining to pass judgment on the artistic merits of this film that became a cultural sensation was notable. More shocking was the late-1988 opening of a controversial but successful exhibit of nude paintings at Beijing's National Gallery of Art.[23] Not only was this the first mainstream exhibit of nudes in the history of the People's Republic of China (PRC), but the paintings were created by teachers at the Central Academy of Fine Arts rather than being imported from abroad. A final cross-cultural example from 1988, with a tie to the depiction of navies in popular culture, was

the staging at Beijing's Capital Theater of an all-Chinese production of *The Caine Mutiny,* directed by Charlton Heston.[24] The popularity of this World War II naval story in 1988—some three decades after its mainstream success in America as a novel, film, and play—no doubt raised interesting questions about wartime duty, the abstract ideals of the naval profession, and the potentially seditious notion of ousting an unfit leader.[25]

The cultural movement of the 1980s extended beyond the world of intellectuals and art connoisseurs. Western books of all types became widely available in China, Kentucky Fried Chicken (KFC) opened its first restaurant in China at the end of 1987, and televisions and television stations proliferated rapidly across the country.[26] The spread of television, in particular, was essential to allowing *Heshang* to reach a massively larger audience than any of the other 1988 high-culture events in Beijing.

Against this background, *Heshang* appeared, to great acclaim and popularity, in June 1988. A group of young Chinese filmmakers had begun work on the series early that year, even as a thirty-part, apolitical documentary called *Yellow River,* on which several of them had worked, was airing.[27] Concentrating so heavily on that river in this initial project inspired writers such as Su Xiaokang to use the river as a symbol in exploring provocative cultural and political messages.[28] *Heshang* developed into a documentary of six parts, each organized around a different theme. As a work of art, *Heshang* is subject to multiple interpretations that may or may not match the creators' intent at the time, a factor intensified by the collaborative nature of the project. Richard Bodman, who translated *Heshang* and wrote the introduction to a guide to the series, emphasizes that the organization into thematic episodes and the reliance on symbolic images make any simple summary "interpretive," representing "only one possible reading."[29] Nevertheless, there are general themes running through *Heshang* that speak to the debate over China's relationship to the sea.

The first five parts cover various aspects of Chinese history and culture, highlighting the failures of many generations of Chinese leaders to keep pace with a world that was leaving the nation behind. These episodes question and attack China's traditional identity while articulating a different patriotic, and occasionally nationalistic, mood to call for a different future for China.[30] Of note, part 2, "Destiny," invokes the Great Wall as evidence of backward thinking and dismisses the fifteenth-century voyages of Zheng He as a brief vanity project that failed to take advantage of a historic opportunity to join the age of exploration. The writers of episode 2 argue that Chinese traditional culture continued to cause China to miss out on the opportunities created by the sea long after Zheng He, and that China's defeat in the Sino-Japanese War had been centuries in the making. Also notable to this discussion is part 4, "The New Era," which contrasts the

failed policies of the Maoist era with the rapid but disruptive success of reforms under Deng Xiaoping, with a particular emphasis on the economic policies of Zhao Ziyang, the CCP leader in 1988 who carried forward Deng's reforms with a particular focus on developing China's coastal regions.

However, it is *Heshang*'s sixth episode, "Blueness," that makes the boldest political statements and is the most explicitly maritime in both substance and symbolism. Part 6, written by Xie Xuanjun and Yuan Zhiming, opens with a view of Earth from space, calling Earth a blue planet, one dominated by blue seas from which all life emerged. A quick summary of human history then invokes the linked emergence of democracy and sea power in Athens; highlights the connections between a maritime economy and the rise of industrial capitalism; and concludes that ships have carried trade, colonization, science, and democracy, such that "'blueness' came to symbolize the destiny of the modern world."[31] After a review of China's humiliation in the Opium Wars, the episode explicitly links cultural barriers and sea power with the story of Yan Fu, a Qing dynasty scholar sent to study at Britain's Royal Naval College at Greenwich from 1877 to 1879. On his return to China, Yan became dean of the Tianjian Naval Academy, which had just been established by Li Hongzhang, and Yan participated in the short-lived Hundred Days of Reform that began 11 June 1898 (as it happened, *Heshang* first aired on the movement's ninetieth anniversary, 11 June 1988).[32] According to episode 6 of *Heshang,* Confucian tradition prevented Yan Fu from bringing naval consciousness back to China, whereas Hirobumi Ito, a Japanese student in England at the same time, became a leading reformer in Japan, drafted the country's first constitution, and was prime minister during the 1894 Sino-Japanese War.

This vignette serves the arguments in episode 6 but represents a very loose interpretation of the history. The Qing dynasty was less adept at naval modernization than were the Japanese, but it did continue substantial investment in China's naval forces—particularly the modern battleships of the Beiyang Fleet—in the years after Yan returned from England, and there is no evidence to support the assertion in *Heshang* that Yan and Ito were classmates at Greenwich.[33] *Heshang*'s take on the history of Qing naval modernization is superficial and flawed, but the vignette highlights again that the filmmakers were drawing on a rich and continuous tradition among Chinese intellectuals since the nineteenth century who have called for China selectively to embrace foreign ideas and technology to make China powerful and prosperous.[34]

Episode 6 continues with a full-scale attack on Confucianism and land-based culture, arguing that, while a continental mentality may produce nuclear weapons and a space program, only blueness can "infuse the whole nation with a strong, civilizing vitality." The episode then praises the post-1978 reforms, particularly the role of intellectuals, entrepreneurs, and Zhao's coastal strategy—a

PHOTO 1

Images captured from extracts of *Heshang* posted to YouTube.

Source: 河殇 [*River Elegy*], aired June 1988 on China Central Television, available at www.youtube.com/.

direct parallel to Padfield's arguments about the tight connections among national power, intellectual freedom, and a merchant-led maritime economy. This section of episode 6 includes the closest connection to the PLAN's 1988 campaign in the Spratlys; it calls the April 1988 elevation of Hainan Island, in the South China Sea, to provincial status a "historical undertaking" and states that Hainan's economic success would "necessarily give a new color to China's culture."[35]

Heshang proved wildly popular when it first aired in June 1988, and audience demand led to a second television airing in August. The script was printed in newspapers nationwide, including the CCP official newspaper *People's Daily,* and a book edition went through five printings between June and September 1988.[36] The rapid spread of *Heshang*'s themes sparked debate among Chinese intellectuals—and controversy within the Chinese leadership. In late 1988, some scholars tried to take a moderate course, praising parts of *Heshang* while holding that some of its messages, such as those in part 6, were extreme and unnecessarily offensive to conservative leaders.[37] One of these leaders was party elder Wang Zhen, who was enraged by the documentary's assault on traditional culture. General Secretary Zhao, on the other hand, endorsed *Heshang*'s proreform messages.[38]

These deep fissures in the party leadership soon would have cataclysmic results. Within months of *Heshang*'s broadcast, student-led prodemocracy protests broke out across China, leading to the ouster of Zhao and the bloody crackdown at Tiananmen Square. In the months following the suppression of the protests, the CCP launched a full-scale propaganda assault on *Heshang,* formally banning it for allegedly fomenting unrest and promoting "bourgeois liberalism" in the service of "international reactionary force."[39] Su Xiaokang became the target of a nationwide manhunt, and the creators of *Heshang,* many of whom were graduate students, joined other leaders of the democracy movement on the flight into

exile. It is perhaps only appropriate that many dissidents, including Su, reportedly made their escape by sea, aboard smugglers' speedboats to Hong Kong.[40]

THE DECADE LEADING TO JOHNSON REEF

In the months before *Heshang*'s first broadcast, Sino-Vietnamese tensions mounted in the South China Sea, leading to the naval battle at Johnson Reef on 14 March 1988 and the ensuing PLA occupation of features in the Spratly Islands. Just as *Heshang* marked a pivotal moment in the cultural discourse of the late 1980s, the Johnson Reef battle occurred within the broad context of China's emergence as a maritime power. Geopolitical, commercial, and operational concerns steadily increased Beijing's focus on the South China Sea throughout the 1980s.

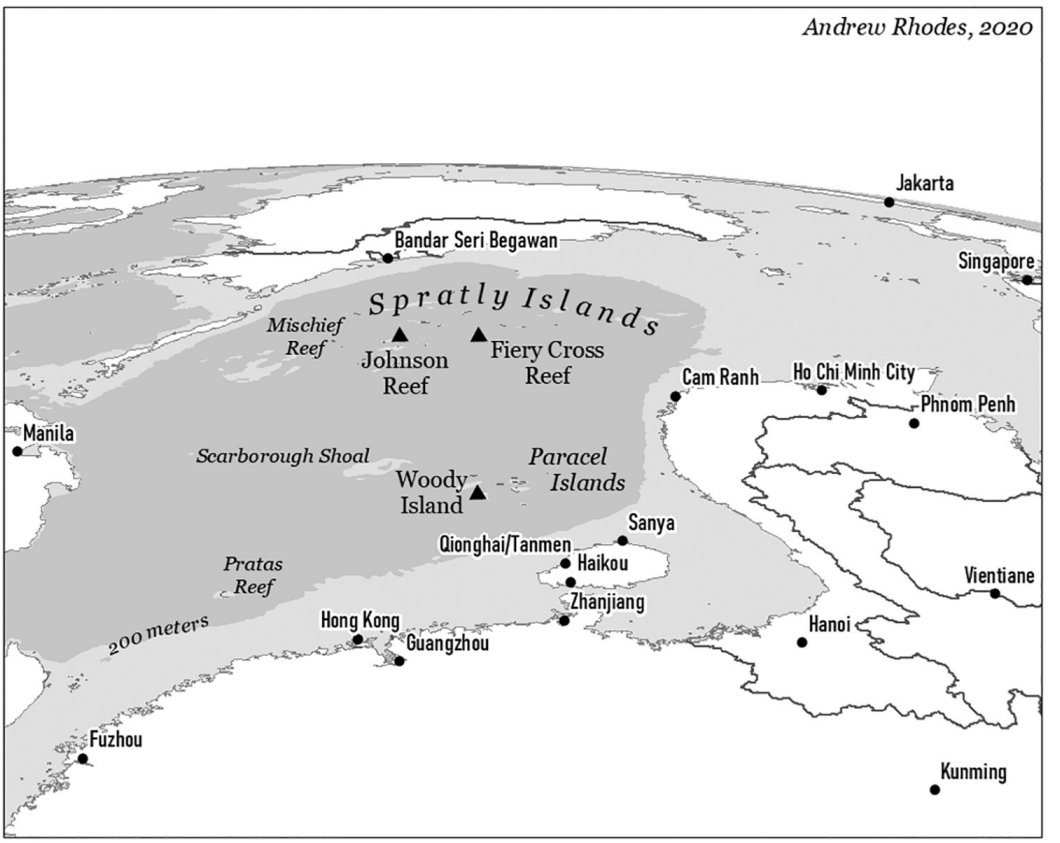
Other scholars have covered amply the scope of China's economic growth in the 1980s as the country participated more and more in the international trading system. It is important to remember, however, that energy dependence was not yet a primary concern for Beijing in the 1980s; the country remained a net exporter of oil throughout the decade. Even though China's merchant marine had grown rapidly and already was a major part of the global shipping industry by 1988, discussions of the economic importance of the sea did not yet emphasize commerce protection, defense of sea lines of communication, or the security of Chinese-flag ships.[41]

Beijing was, however, very concerned about ocean resources, including fish, offshore petroleum, and seabed minerals (and remains so today).[42] The Chinese fishing fleet had particular importance in this period for the development of nonnaval instruments of maritime power, particularly the growth of maritime-law-enforcement and maritime-militia forces, which have become major players in twenty-first-century regional disputes. Maritime militias have played a role throughout the history of the PRC, helping to defend against coastal raids by the Kuomintang forces on Taiwan in the 1950s and participating in the 1974 battles in the Paracel Islands.[43]

The 1985 establishment of the Tanmen Militia, named for a fishing village near Qionghai, is directly relevant to understanding the South China Sea in the 1980s. This militia's founder played a central role in spreading word about the fish resources available in the Spratly Islands, and between 1985 and 1988 he organized investment in new boats and expeditions to the distant fishing grounds.[44] The efforts of the Tanmen Militia directly link China's growing exploitation of resources in the South China Sea to Beijing's efforts to assert control and jurisdiction in disputed areas and provide mutual support between the PLAN and paramilitary maritime forces. The ties between the PLAN and the Tanmen Militia deepened quickly, and militia forces played a direct role in the first Spratlys

Naval War College Review, Vol. 74 [2021], No. 2, Art. 1

MAP 1



The South China Sea, shown from the perspective of mainland China, in an oblique orthographic projection.

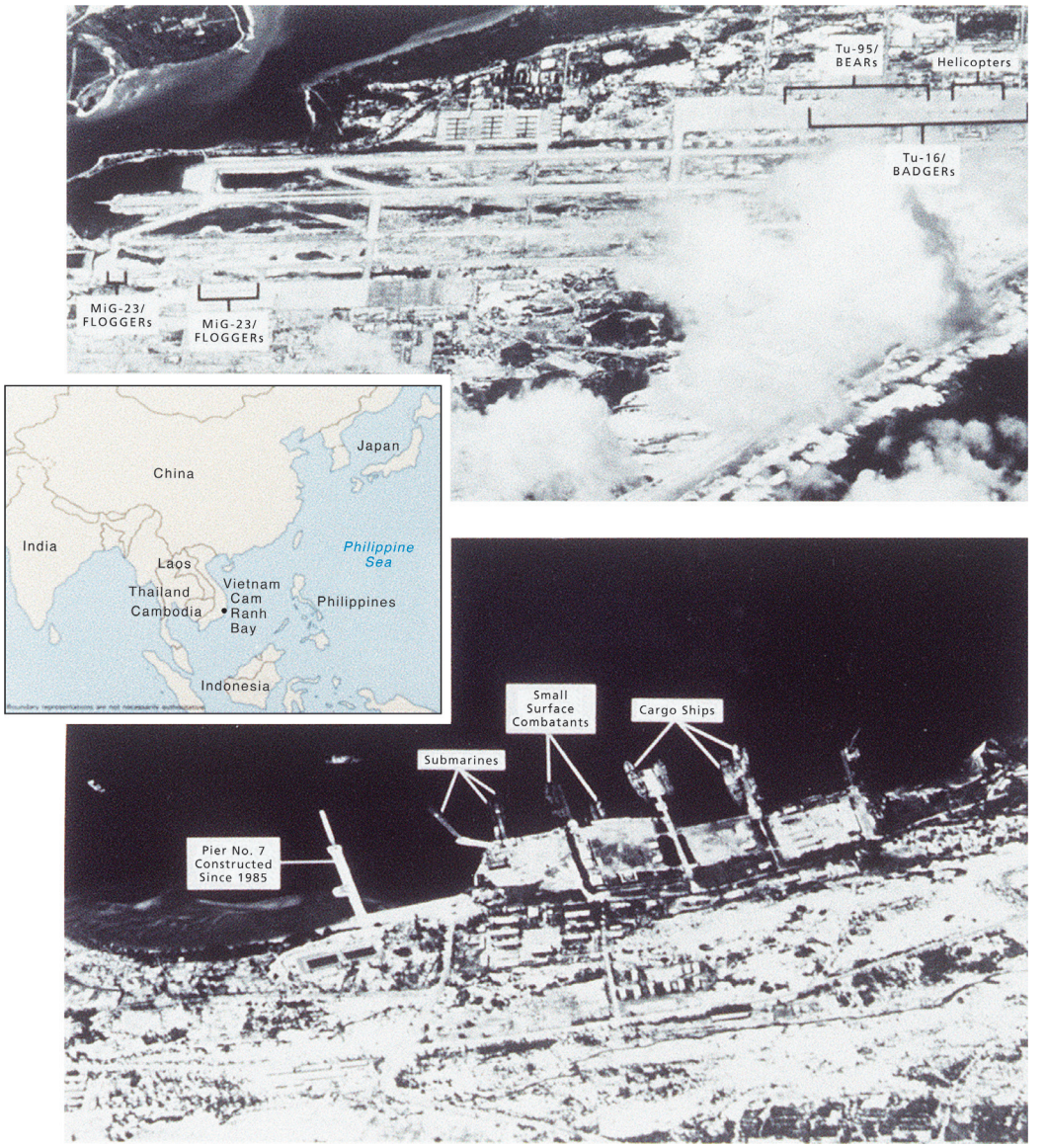
Source: Author.

construction campaign, in 1988.[45] The Tanmen Militia continues to be involved in high-profile clashes, such as the incident at Scarborough Shoal in 2012 and the *Haiyang Shiyou 981* oil rig standoff in 2014.[46]

Cold War geopolitics made the international environment of 1988 fundamentally different from the current situation. During the 1980s, China and the United States were closely aligned against a common enemy, the Soviet Union, including in the form of U.S. arms sales to the PLA, signals-intelligence cooperation, and Chinese support to arm the Afghan mujahideen.[47]

Immediately relevant to the South China Sea was the other common enemy that China and the United States then shared: Vietnam.[48] Although China's 1979 invasion of Vietnam was short, it was bloody, and the border conflict continued throughout the 1980s, with occasional major battles, particularly in the Laoshan sector from 1984 to 1987.[49] One of the last phases—and the only primarily naval phase—of the long limited war between China and Vietnam took place in 1988.

PHOTO 2



Soviet air and naval facilities at Cam Ranh Bay, Vietnam, 1987.

Source: A High-Altitude View and Map of the Soviet Base at Cam Ranh Bay, Vietnam, 6412398, 1987, photograph, National Archives and Records Administration.

On the other hand, the logic of shared enemies steadily deepened ties between Hanoi and Moscow through the 1970s and 1980s, and the strength of this relationship was clearly evident at the closest major military base to the Spratly Islands: Cam Ranh Bay. The United States had expanded Cam Ranh greatly during its war in Indochina. Afterward, the Soviets continued the expansion for their own benefit; by the mid-1980s, Cam Ranh Bay hosted the largest number

of Soviet warships based outside the Soviet Union, while Soviet medium-range bombers with antiship missiles were based at the adjacent airfield.[50] Sino-Soviet relations improved with the rise of Gorbachev in 1985, but the PLA did not shift its strategic focus formally away from its northern neighbor until 1993.[51]

The CCP leadership had paid attention, albeit with inconsistent focus, to the South China Sea since the founding of the People's Republic. The PLA conquered Hainan in 1950, occupied part of the Paracel Islands in 1970, and seized the rest of the Paracels from a collapsing South Vietnam in 1974. Indeed, the architect of the reform era, Deng Xiaoping, personally oversaw the 1974 operation from the offices of the PLA General Staff.[52] Given Deng's personal experience and Zhao's focus on the new Hainan Province as a flagship reform project, in the 1980s the South China Sea became an important issue for the most-senior leadership.[53]

The PLAN of 1988 was a pale shadow of the naval force into which it has evolved today, but important developmental trends were well under way in the 1980s. Several excellent studies have discussed the role of Admiral Liu Huaqing in creating the modern PLAN in the late 1970s and the 1980s, most of them derived from Liu's published memoirs.[54] The force structure of the 1980s increasingly centered on a core of China's first generation of indigenously built warships, such as the Type 051 destroyers and Type 035 submarines. The 1980s also saw important progress in developing second-generation combatants, such as the Type 052 destroyers and improved Type 053 frigates, that would debut in the 1990s and set the stage for the PLAN's modern, twenty-first-century fleet.[55]

But beyond Liu's modernizing reforms and advocacy of aircraft carriers, it is important to recall that Liu was the standard-bearer for a different kind of navy for a different kind of China. When Liu became PLAN commander in 1982, China was only six years removed from the peak influence of the "Gang of Four," whose members represented both a radical bloc that "opposed the development of an oceanic navy" and the chaos of the Cultural Revolution that had stagnated Chinese naval and commercial maritime development.[56] Following the death of Mao and the rise of Deng, the path was clearer for Liu to call for changing the PLAN's strategy from "near-seas defense" to "offshore defense," with a long-term goal of developing a blue-water navy.[57] Swanson wrote, in 1982, that the five years since the arrest of the Gang of Four had launched a "tremendous maritime renascence" for China, although Bernard Cole argues that the period of ideological impediments to naval modernization only fully ended with the Gang of Four's trial in 1981.[58] The PLAN made important early steps toward its goal in the 1980s with the mastery of underway replenishment and the service's first overseas goodwill cruise, in 1985, to Pakistan, Sri Lanka, and Bangladesh.[59]

Seen within this context, the scope of the PLAN's operations demonstrates that the Spratlys occupation was not a small, isolated skirmish but actually

constituted the PLAN's first blue-water campaign. Beijing formally approved the establishment of a permanent Spratlys presence at the end of 1987, and construction began, with heavy militia support, at Fiery Cross Reef in February 1988.[60] A major focus of the PLAN's campaign was logistics support to outpost construction, but the PLAN also sustained a large presence of combat forces during and after the 14 March clash at Johnson Reef, which left one Vietnamese vessel sunk, at least one more damaged, and a number of Vietnamese sailors dead. In mid-1988, the PLAN deployed some forty warships over five hundred nautical miles from the nearest friendly harbor.[61] The ships came from all three PLAN fleets; the deliberate use of units from across the navy is notable as a parallel to the PLA's rotation of ground forces to the Vietnam border throughout the 1980s, to distribute combat experience across the force.[62] By July, construction was complete at Fiery Cross Reef and five other previously unoccupied features. In interviews, Chen Weiwen, the PLAN commander in the Johnson Reef battle, described efforts to fortify the newly occupied features, particularly in light of the threat of Vietnamese air attack. Chen, who previously had participated in the 1974 Paracels battle, was promoted to rear admiral in September 1988, went on to serve in a variety of senior PLAN positions, and attended the Central Party School.[63]

The 1988 campaign was, in many ways, the operational manifestation of the narrative of naval power that the PLAN and the CCP leadership were building. Not unlike the makers of *Heshang,* China's navalists were advancing a controversial argument about pulling China toward a bluer future. This meant advocating for a more capable navy, selling its importance to national development, and demonstrating its effectiveness in battle.[64] On one level, such advocacy was typical parochial behavior by a military bureaucracy—the costs of naval development can be a hard sell in all political systems. John Garver concludes that "although the rationale for Chinese expansion in the South China Sea during the 1980s shifted from primarily geostrategic to primarily economic, the operations were intimately related throughout the 1970s and 1980s to PLAN efforts to modernize and to the domestic fights over budget to finance this."[65]

China continued to commit to building naval power and militarizing its South China Sea outposts throughout the following year; even as CCP leaders debated how to respond to student protests in 1989, the PLAN worked to solidify its presence. The PLA in 1989 enlarged the airfield at Woody Island in the Paracels and "a Spratly Front Line Headquarters was established to command a six-month campaign of intensified construction."[66] Given the growing focus on ocean resources and early indications of the importance of trade, the economic imperatives attached to naval power were starting to become clear to Chinese leaders in 1988.

THE CULTURAL AND STRATEGIC IMPETUS BEHIND CHINA'S MARITIME IDENTITY

Although Lambert indulges in some uncompelling caricatures of China and the Chinese navy, his core thesis on the centrality of culture to sea-power identity nonetheless has great value for considering the evolution of the naval and maritime consciousness of China from the 1980s to the present. Like *Heshang,* more-recent cultural phenomena also have given a sense of the Chinese popular conception of the country's relationship to the global maritime economy and the PLAN's role in the international system. The recent action blockbusters *Wolf Warrior 2* and *Operation Red Sea* have nothing in common with *Heshang* in terms of tone or style, but they do share a vision of a proud, international China that fully participates in (and defends) the blue economy.[67] They also share a perhaps unexpected level of popularity; *Heshang* and *Red Sorghum* became national and international sensations in 1988, while the 2017 and 2018 action films are two of the three highest-grossing Chinese films of all time and garnered tremendous attention abroad for the popularity of their jingoistic messages.[68] A more direct comparison might be between *Heshang* and the 2006 twelve-part China Central Television documentary 大国崛起 *(Daguo Jueqi,* or *The Rise of the Great Powers),* which aired twice and was a "ratings miracle." Andrew Erickson and Lyle Goldstein describe how *Daguo Jueqi* summarizes the conclusions of China's top scholars who study the path to greatness of both land powers and sea powers.[69] *Daguo Jueqi,* like *Heshang,* concludes that maritime power and international markets are key to China's future; however, unlike *Heshang, Daguo Jueqi* was squarely consistent with the party line of 2006.

Foreign analysts tend to fixate on the tactical events of the 14 March 1988 clash at Johnson Reef and play down the larger importance of the 1988 PLAN campaign. At the national level, neither validating military strategy nor test-driving Liu's modernizing PLAN appears to have been a motivation for the 1988 campaign, but there is a compelling argument that the clash with Vietnam and successful militarization of the Spratlys served as what Rebecca Lissner calls a "strategic crucible" that gave Beijing real-world combat experience that confirmed its ability to pursue a more maritime approach to grand strategy.[70] Lissner's work discusses China in regard to the initial 1979 invasion only briefly, but the addition of the 1988 naval case study would support her conclusion that conflict with Hanoi validated the PLAN modernization program, PLA theories of limited conflict, and Beijing's overall approach to expanding control steadily over the South China Sea. These events undoubtedly are salient in the living and institutional memory of the officers running the PLAN today.[71] The flagship of the PLAN task force at Johnson Reef (the frigate *Yingtan,* No. 531) has been on display at the Qingdao Naval Museum for decades. In early 2020, a new memorial

hall to Chen Weiwen and the March 1988 battle was set to open in Chen's hometown in Guangdong Province, on the thirty-second anniversary of the battle (the COVID-19 pandemic delayed the event).[72]

Is all this simply a matter of historical coincidence, or does a cultural artifact such as *Heshang* truly help explain the rise of Chinese sea power? Given that the Spratly Islands campaign was well under way when *Heshang* aired, would China's quest to become a maritime great power have been inhibited had this documentary never appeared on television? *Heshang* mentions naval power at several points but never specifically invokes the PLAN, which is somewhat surprising in the context of events in the South China Sea that were reported publicly at the time. This omission could suggest that the creators of *Heshang* were far more interested in political and cultural reform than the nature of maritime power within the international system. Nevertheless, *Heshang*'s praise for the entrepreneurial class and the maritime economy is consistent with the "constituents of seapower" that build public and elite support for naval power.[73] This theme in *Heshang* helps explain why the massacre of June 1989 had little effect on the PLAN. The PLAN played no role in suppressing student demonstrations, but it also suffered no political backlash for its embrace of what many in China might see as Western, imperialist ideas of what a navy ought to be. In a different political era, the post-Tiananmen backlash could have sought to reel back the PLAN's move toward "blueness."

In both the political and maritime arenas, China in 1988 was destined for violence. The naval development under way in 1988 proved itself in combat and carried forward into decades of pro-PLAN policies, while the CCP crushed the cultural and political openness of that decade at Tiananmen Square.

That the PLAN successfully continued to promote a blue-water identity after 1988–89 owes much to the leadership of Liu Huaqing in the 1980s and modernizers such as Zhang Wannian in the 1990s. But it also suggests that the creators of *Heshang* were onto something. By 1988, parts of the CCP leadership, the PLAN, leading commercial interests, and prodemocracy intellectuals all believed that China's future was "blue." This conviction is undoubtedly far greater now within the PLAN than it was in 1988. On this narrow but profound point, both the PLAN and *Heshang* were "selling the sea" at the same time. The 1989 crackdown and the entrenched authoritarianism that has reached new heights under Xi Jinping have sought to exorcise notions of democracy and openness from China's maritime identity, but otherwise China has embraced the "blueness" called for in part 6 of *Heshang*. The experience of 1988 makes evident that China's pursuit of sea power and a maritime future was well under way three decades ago. *Heshang* proved tragically wrong in terms of the prospects for

transforming the PRC into a democratic state, but it was quite right about the emerging Chinese maritime identity.

NOTES

The author would like to thank a number of friends and colleagues at the Naval War College who provided inspiration, comments, and research leads for this article, including Geoffrey Till, Ryan Martinson, Conor Kennedy, Peter Dutton, and Andrew Erickson.

1. Although *River Elegy* is perhaps the most frequent translation, 河殇 *(Heshang)* also has been translated as *The River Dies Young* and *Deathsong of the River*. The latter translation was chosen for an English-language volume that included a translation of the script and companion essays, produced with the assistance of the original creators of the series. See Su Xiaokang and Wang Luxiang, eds., *Deathsong of the River: A Reader's Guide to the Chinese TV Series* Heshang, trans. Richard W. Bodman and Pin P. Wan (Ithaca, NY: Cornell Univ. Press, 1991).
2. The importance of this overlap first was suggested to the author by a brief cultural discussion in Alexander Chieh-Cheng Huang, "Chinese Maritime Modernization and Its Security Implications: The Deng Xiaoping Era and Beyond" (PhD dissertation, George Washington Univ., January 1994), pp. 13–14, 49.
3. Ibid., p. 50.
4. 吴胜利 [Wu Shengli], "Learn Profound Historical Lessons from the Sino-Japanese War of 1894–95 and Unswervingly Take the Path of Planning and Managing Maritime Affairs, Safeguarding Maritime Rights and Interests, and Building a Powerful Navy" [in Chinese], 中国军事科学 [*China Military Science*] (August 2014), pp. 1–4; State Council Information Office of the People's Republic of China, China's Military Strategy, May 2015. Translation courtesy of the Naval War College's China Maritime Studies Institute [hereafter CMSI].
5. Geoffrey Till, *Seapower: A Guide for the Twenty-First Century,* 4th ed. (London: Routledge, 2018), p. 110.
6. Peter Padfield, *Maritime Supremacy and the Opening of the Western Mind: Naval Campaigns That Shaped the Modern World* (New York: Overlook, 2000), pp. 69, 179.
7. Peter Padfield, *Maritime Power and the Struggle for Freedom: Naval Campaigns That Shaped the Modern World, 1788–1851* (New York: Overlook, 2005), pp. 26–28, 33.
8. Andrew Lambert, *Seapower States: Maritime Culture, Continental Empires and the Conflict That Made the Modern World* (New Haven, CT: Yale Univ. Press, 2018), pp. 1–3.
9. Jakub J. Grygiel, *Great Powers and Geopolitical Change* (Baltimore: Johns Hopkins Univ. Press, 2011), p. 125.
10. 张文木 [Zhang Wenmu], 经济全球化与中国海权 ["Economic Globalization and Chinese Sea Power"], 战略与管理 [*Strategy and Management*], no. 1 (2003); 徐弃郁 [Xu Qiyu], 海权的误区与反思 ["Misconceptions and Reflections on Sea Power"], 战略与管理 [*Strategy and Management*], no. 5 (2003); 邵永灵 [Shao Yongling] and 时殷弘 [Shi Yinhong], 近代欧洲陆海复合国家的命运与当代中国的选择 ["The Fate of Modern European Land-Sea Hybrid States and China's Choices"], 世界经济与政治 [*World Economics and Politics*] (October 2000). All three translations by CMSI.
11. Toshi Yoshihara and James R. Holmes, *Red Star over the Pacific: China's Rise and the Challenge to U.S. Maritime Strategy,* 2nd ed. (Annapolis, MD: Naval Institute Press, 2018), p. 101.
12. 龚耘 [Gong Yun] and 杨玉荣 [Yang Yurong], "Research on the Root of Defeat of Sino-Japanese War of 1894–95 from an International Perspective" [in Chinese] 海军工程大学学报 [*Journal of the Naval University of Engineering*] 11, no. 3 (December 2014); 孙仙红 [Sun Xianhong], 刘俊玲 [Liu Junling], and 李海立 [Li Haili], "Reflections on the Formation and Development of China's Sea Power from the Sino-Japanese War" [in Chinese] 同行 [*Peers*], no. 3 (2016). Gong and Yang article translation by CMSI. These articles, and several other recent Chinese writings

on the Sino-Japanese War, are discussed in more detail in Andrew Rhodes, "Same Water, Different Dreams: Salient Lessons of the Sino-Japanese War for Future Naval Warfare," *Journal of Advanced Military Studies* 11, no. 2 (Fall 2020), pp. 35–50.

13. Bruce Swanson, *Eighth Voyage of the Dragon: A History of China's Quest for Seapower* (Annapolis, MD: Naval Institute Press, 1982), p. 1.
14. Lambert, *Seapower States,* pp. 315–17.
15. Padfield, *Maritime Power and the Struggle for Freedom,* p. 15.
16. Alastair Iain Johnston, "Thinking about Strategic Culture," *International Security* 19, no. 4 (Spring 1995), pp. 32–64; Colin S. Gray, "National Style in Strategy: The American Example," *International Security* 6, no. 2 (Fall 1981), pp. 21–47; Andrea Ghiselli, "Revising China's Strategic Culture: Contemporary Cherry-Picking of Ancient Strategic Thought," *China Quarterly* 233 (March 2018), pp. 166–85.
17. Johnston, "Thinking about Strategic Culture," p. 49.
18. Jonathan D. Spence, *The Search for Modern China,* 3rd ed. (New York: W. W. Norton, 2013), pp. 189, 210–11.
19. Ralph Crozier, "'Going to the World': Art and Culture on the Cosmopolitan Tide," in *China Briefing, 1989,* ed. Anthony J. Kane, (Boulder, CO: Westview and the Asia Society, 1989), p. 68.
20. Ibid., p. 67.
21. Stuart Innes, "Blessed Year of the Dragon," *The Advertiser* (Adelaide, SA, Austral.), 23 January 1988.
22. *Hong Gaoliang* was the directorial debut for Zhang Yimou, who has gone on to direct a number of internationally successful films, as well as the opening ceremony for the 2008 Beijing Olympics.
23. Reuters, "Thousands Line Up for Beijing Show: China's 1st Nude Art Exhibit a Naked Success," *Los Angeles Times,* 22 December 1988.
24. David R. Schweisberg, "Caine Mutiny in China, with Heston at Helm," *United Press International,* 4 November 1988, upi.com/.
25. Herman Wouk's work was released as a novel in 1951, won the Pulitzer Prize in 1952, and in 1954 was adapted as both a Broadway play and a film starring Humphrey Bogart. The People's Art Theater staged the play in Beijing again in 2006. Jackie Zhang, "Broadway Show Comes Back to Beijing," *Beijing Today,* 6 October 2006, p. 10.
26. "Col. Sanders Takes a Great Leap Forward," *Reuters,* 23 November 1987. In 2019, there were more than five thousand KFC restaurants in China. Harrison Jacobs, "KFC Is by Far the Most Popular Fast Food Chain in China and It's Nothing like the U.S. Brand—Here's What It's Like," *Business Insider,* 8 March 2019, www.businessinsider.com/.
27. Ying Zhu, "The Inside Story of When China's State-Run TV Criticized the Party," *The Atlantic,* 5 June 2012, theatlantic.com/.
28. Su Xiaokang, "The Distress of a Dragon Year—Notes on *Heshang,*" in *Deathsong of the River,* ed. Su and Wang, pp. 273–75.
29. Richard Bodman, "From History to Allegory to Art: A Personal Search for Interpretation," in *Deathsong of the River,* ed. Su and Wang, p. 5.
30. Suisheng Zhao, "Chinese Intellectuals' Quest for National Greatness and Nationalistic Writing in the 1990s," *China Quarterly* 152 (December 1997), pp. 727–29.
31. "Part Six—Blueness," in *Deathsong of the River,* ed. Su and Wang, p. 206.
32. Shellen Xiao Wu, *Empires of Coal: Fueling China's Entry into the Modern World Order, 1860–1920* (Stanford, CA: Stanford Univ. Press, 2015), p. 175; Su and Wang, *Deathsong of the River,* p. 209.
33. Rhodes, "Same Water, Different Dreams." See also Su and Wang, *Deathsong of the River,* p. 210 note 22. Chapters 6 and 7 of Swanson's *Eighth Voyage of the Dragon* include a detailed history of Chinese students abroad and their influence upon their return to China in this period.
34. Orville Schell and John Delury, *Wealth and Power: China's Long March to the Twenty-First Century* (New York: Random House, 2013). Schell and Delury trace this intellectual tradition with a series of biographies of key Chinese thinkers, beginning with the nineteenth-century scholar Wei Yuan, who published his

Illustrated Gazetteer of the Countries Overseas in 1844.

35. Su and Wang, *Deathsong of the River,* pp. 213, 215.
36. Ibid., app. 1.
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THE MIDDLE KINGDOM RETURNS TO THE SEA, WHILE AMERICA TURNS ITS BACK

How China Came to Dominate the Global Maritime Industry, and the Implications for the World

Christopher J. McMahon

The condition of the American Merchant Marine is such as to call for immediate remedial action by the Congress. It is discreditable to us as a Nation that our merchant marine should be utterly insignificant in comparison to that of other nations we overtop in other forms of business. We should no longer submit to conditions under which only a trifling portion of our great commerce is carried in our own ships. To remedy this state of things would not merely serve to build up our shipping interests, but it would also result in benefit to all who are interested in the permanent establishment of a wide market for American products, and would provide an auxiliary force for the Navy.

PRESIDENT THEODORE ROOSEVELT,
ANNUAL MESSAGE TO CONGRESS, 1901

Command of the marine transportation system has long acted as the stage on which great powers compete. . . . The infrastructure facilitating the transport of maritime commerce—ocean-going vessels, deep-water ports, high-speed railways, and fiber optic cables—descend from technologies Western powers once leveraged in the 19th and 20th centuries to expand their access to foreign markets. Today, the MSR [China's Maritime Silk Road] mimics these strategies, for example, by building railways in Africa or laying transoceanic data cables. In some locations, new MSR projects are literally replacing colonial projects. The MSR is a strategic economic policy, intended to promote the Chinese workforce, build bilateral ties, foster dependence, and ensure near-exclusive access to foreign ports for Chinese controlled or affiliated vessels. . . . Through MSR projects, China can advance both economic and non-economic objectives simultaneously.

REPRESENTATIVE SEAN PATRICK MALONEY (D-NY), CHAIR,
HOUSE SUBCOMMITTEE ON COAST GUARD AND
MARINE TRANSPORTATION, 17 OCTOBER 2019

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Since the founding of the United States during the Revolutionary War, nearly every president has recognized and called for congressional support of a strong U.S. maritime industry.[1] As the United States supposedly is a maritime nation with a massive international trading economy, it seems obvious that control of, or at least strong influence over, America's seagoing supply chains is important.[2] Through the first half of the nineteenth century, the U.S. Merchant Marine was one of the largest and most efficient of its kind in the world—partly because of public and political support.[3] In those decades U.S.-flag clipper ships dominated many trades, including—ironically—the China trade. But the second half of that century saw the industry go into steep decline—in some measure because political support had evaporated. For economic and strategic reasons during the first half of the twentieth century—specifically, immediately prior to World Wars I and II—Congress intervened, taking critical steps to support the industry. But today that past support of the industry has disappeared once again, and the U.S. maritime industry engaged in international trade is in a perilous state of affairs. This has occurred as the People's Republic of China (PRC) has become, by far, the leading commercial maritime power in the world.

The lack of a vibrant U.S. maritime industry engaged in worldwide trade places the strategic and economic interests of the United States and its allies in grave jeopardy. This is particularly so given that the PRC now dominates most sectors of the world's maritime industry, and consolidation in all sectors is occurring at a rapid rate that benefits the PRC. The influence and the effectiveness of the PRC's political and governmental intervention and funding in all sectors of China's maritime industry are causing numerous other companies in the global industry simply to cease operations or suffer absorption by Chinese companies. There is a strong prospect that within little more than a decade, or even sooner, China virtually will control the world's seagoing supply chain. The consequences of this happening for the United States and the world as a whole are staggering. As a nation dependent on maritime transportation for its economy and for the movement of its military forces, the United States must take decisive and immediate steps to promote the reestablishment of U.S.-flag shipping and further enable all sectors of the U.S. maritime industry to compete in a significant way in the global industry.

ONCE UPON A TIME

It was the winter of 1979–80. A buzz was going around the offices of the New Orleans–based Lykes Brothers Steamship Company (also known as Lykes Lines) and through its fleet of forty-five vessels. Word had it that SS *Letitia Lykes* was loading full and down on the West Coast of the United States with eighteen thousand tons of cargo bound for Shanghai, China. *Letitia* would be the first U.S.-flag

ship to call on a mainland Chinese port since World War II. This event was the result of the ongoing rapprochement between the PRC and the United States that followed President Richard M. Nixon's historic visit to China in 1972 and follow-on efforts by Presidents Gerald R. Ford and Jimmy Carter. The opening of this new market indeed was cause for celebration.[4]

At the time, Lykes was one of dozens of U.S.-flag ocean-shipping companies. With its forty-five vessels, Lykes was one of the larger U.S. companies, but not the largest; that honor fell to SeaLand Services Corporation, which in 1979 was by far the largest container-shipping company in the world. But in 1980, even with more than 860 merchant ships, the U.S.-flag industry operated only about 3.8 percent of the world's merchant vessels, which then totaled about 22,872 ships.[5] That percentage was down from a 1946 high, when the United States operated some 70 percent of the world's commercial shipping.[6] By 1960, this number had fallen to 16.9 percent of the world's fleet. Even so, in 1980 U.S.-flag shipping still was significant. Plus, the U.S. maritime industry had made massive technological innovations that revolutionized the industry, such as the introduction of container shipping and lighter-aboard-ship (or LASH) vessels.

SS *Letitia Lykes,* like all Lykes ships, had been built in a U.S. shipyard, supported by the Maritime Administration (MARAD) through the Construction Differential Subsidy (CDS) program. U.S.-flag shipping companies were owned and operated by American citizens without any foreign corporate interests involved. Profits stayed in the United States. U.S. shipping companies, particularly SeaLand Services, owned or leased and operated dozens of container terminals in U.S. ports and in ports throughout the world. While the United States at the time was in the process of implementing a treaty to turn over operation of the Panama Canal to Panama, the United States still exercised significant influence in the canal's affairs.[7]

Although in these years the United States did not possess the largest merchant marine in the world, the size and influence of its industry still were considerable in global maritime affairs, and with its large navy the United States rightfully could be called a maritime nation, according to the criteria of naval historian Captain Alfred Thayer Mahan, USN, as laid out in his influential book *The Influence of Sea Power upon History, 1660–1783*. Mahan believed that history demonstrated that a truly maritime nation required a sizable merchant marine in addition to a powerful navy.[8]

TWENTIETH-CENTURY SUPPORT FOR THE U.S.-FLAG SHIPPING INDUSTRY

In the decades leading to World War I, American agricultural and industrial exports increased dramatically and America became the leading economic

superpower, even as the U.S. Merchant Marine continued to decline. Americans and American-owned businesses were confident that inexpensive foreign-flag shipping would remain bountiful and readily available as needed to provide the seagoing logistics the nation required. This proved to be a false assumption. With the outbreak of war in 1914, the American economy, dependent on international trade, suffered from a lack of availability of commercial ships. The European nations that had provided the commercial sealift for the American economy withdrew their vessels for political reasons and for wartime purposes. This caused widespread disruption in trade; manufactured products piled up on American docks, in railcars, and in warehouses, and agricultural goods spoiled because they could not be brought to overseas markets. The American economy suffered greatly because of the lack of available commercial shipping.[9]

The extent of the damage to the American economy caused by the shortage of U.S.-flag shipping in 1914 was so serious that Congress finally decided to act, but this took time, and the insufficiency of commercial shipping continued to imperil the economy. Following numerous and lengthy hearings, Congress passed the Shipping Act of 1916, which created the United States Shipping Board. The board was designed specifically to promote and assist the U.S. Merchant Marine. By the time the board was fully established, however, it was apparent the United States would enter the war soon. This placed the board on a wartime footing. In October 1917, the board requisitioned the entire U.S. Merchant Marine.[10]

In 1917, the Shipping Board initiated a huge shipbuilding program through the creation of the Emergency Fleet Corporation. Eventually, the board contracted for more than 1,700 merchant vessels. Despite this unprecedented effort, only 107 ships were delivered before the armistice was signed in November 1918. However, the remaining vessels were completed by 1922, and it was hoped that U.S.-flag companies would purchase them, and some did. Following World War I, the United States ranked number one in the world, at least in numbers of potentially available merchant ships. But the country never followed through on this advantage.[11] By the 1930s, the U.S. Merchant Marine again was in a perilous condition owing to political neglect. And ominously, the challenges of World War II were on the horizon.

Other legislation that attempted to support U.S.-flag shipping included the so-called Jones Act. The Merchant Marine Act of 1920 (Pub. L. No. 66-261) was sponsored by Senator Wesley L. Jones from Washington State. A major purpose of the act was to support the rights of American seafarers by solidifying laws passed during the late nineteenth and early twentieth centuries. For example, the act gave seafarers the right to sue their employer for workplace (shipboard) injuries. A second provision of the act would establish procedures for transferring the U.S. government–owned merchant vessels built in response to World War I to

private ownership. The lessons learned from World War I included recognition that the U.S. Merchant Marine was critical to national security. The preamble to the Jones Act included the following summary: "It is hereby declared the policy of the United States to do whatever may be necessary to develop and encourage the maintenance of a merchant marine . . . sufficient to carry the greater portion of its commerce and serve as a naval or military auxiliary in time of war or national emergency, ultimately to be owned and operated by citizens of the United States."[12]

As one way to support and maintain the U.S. Merchant Marine, the Jones Act also renewed cabotage legislation that Congress had established and maintained during the late eighteenth century and throughout the nineteenth. The policy required trade between U.S. ports to be restricted to U.S.-built, U.S.-owned, U.S.-flag, and U.S.-crewed merchant ships. (The very first piece of legislation that Congress passed under the Constitution, in April 1789, established a tariff on imported goods to protect U.S.-flag shipping. This was followed by the Navigation Act of 1817, which expressly excluded foreign-flag vessels from trading between U.S. ports.)[13] Cabotage legislation, including the Jones Act, always has ensured that there are U.S.-flag vessels to serve coastal, inland, and island trades, and it has continued to provide jobs for mariners, who then have been available to serve on strategic sealift vessels in times of national emergency. But this legislation was suspended prior to World War I because of the lack of U.S.-flag ships.

The key legislation that clearly defined support for the U.S. Merchant Marine in the twentieth century was the Merchant Marine Act of 1936. From the time the law was enacted through the next forty-five years, the U.S. Merchant Marine enjoyed generally strong support from Congress and presidential administrations. The act established the U.S. Maritime Commission (later renamed the Maritime Administration). It established the CDS program, which provided funds to support the construction of ships in U.S. shipyards. The act also established operating differential subsidies (ODSs), which provided funds to enable and encourage shipping companies to operate their ships under the U.S. flag. Finally, the act established the U.S. Merchant Marine Academy, an institution dedicated to educating and training merchant marine officers. It is not an exaggeration to state that the Merchant Marine Act of 1936 played a pivotal role in preparing the United States for World War II and, following the attack on Pearl Harbor, the quick construction of the largest and most capable merchant marine the world had ever seen, despite huge losses of ships and mariners during the early years of the war.[14]

In an effort to support U.S.-flag shipping further, Congress passed two companion bills in 1954, the Agricultural Trade Development and Assistance Act (Pub. L. No. 83-480) and the Cargo Preference Act (Pub. L. No. 83-664), which required a percentage of government-impelled cargo, such as food aid, to be carried

on U.S.-flag ships.[15] These requirements, overseen by MARAD, have guaranteed cargoes for U.S.-flag ships and provided financial support for the industry.

With the support of Republican president Nixon, a Democratic Congress passed the Merchant Marine Act of 1970. This legislation increased the subsidies provided by MARAD's CDS program, which substantially increased the construction rate of new merchant ships in U.S. shipyards, yielding dozens of ships. As a result, relatively large numbers of new and technically innovative ships joined the U.S.-flag fleet in the 1970s, and the shipbuilding industry in these years was particularly healthy, as was the U.S. maritime industry in general.[16] Many of these same shipyards built warships for the Navy, and the large numbers of both commercial and Navy contracts enabled economies of scale that allowed shipyards to build vessels at lower per-ship costs.[17]

THE GLOBAL MARITIME WORLD CHANGES—THE U.S. MARITIME INDUSTRY TODAY

When SS *Letitia Lykes* departed Shanghai on the transit back to the United States from its historic voyage in the spring of 1980, its cargo holds were nearly empty. In those years, the Chinese had little to sell to a U.S. market. With only twenty-six PRC-flag vessels in international trade, the Chinese shipping industry was equally insignificant.[18] While Chinese shipyards built some small coastal trading vessels and fishing boats, they produced no large vessels. There were few or no Chinese companies operating in other countries, and certainly no Chinese companies operating ports and terminals outside China.

What a difference forty years makes! The U.S. maritime industry has retreated on all fronts, whereas the Chinese industry has exploded in size to become, by far, the largest in the world, in nearly every category. This has been the result of public, corporate, and political apathy in the United States and quite the opposite in China; in the latter, government and industry have partnered for decades to implement strategic plans to grow all sectors of the industry. In the United States, it also is the result of a public and political lack of understanding of the role the maritime industry plays in the strategic and economic health of the nation. The U.S. maritime industry engaged in worldwide trade had been in decline since World War II; however, those American companies still operating ships in international trade into the 1980s entered a *steep* decline at that time, eventually going bankrupt and ceasing operations.

When the Reagan administration came into office in 1981 it almost immediately eliminated the CDS shipbuilding program provided by the Merchant Marine Acts of 1936 and 1970. Over the next several years, this action, in turn, forced the closure of numerous commercial shipbuilding companies across America. In 1975, U.S. shipyards produced seventy deep-sea commercial ships.[19]

The Reagan administration's abolition of the CDS program crippled the industry. Today no subsidies are provided to build vessels in U.S. shipyards. As a result, only a few shipyards remain in the United States that are capable of building deep-sea commercial ships, and the future financial health of these remaining yards is in question. The only commercial ships built after 1980 have been for Jones Act trades, which require ships built in U.S. shipyards.

In 2016, the number of commercial ships constructed in U.S. yards averaged only five vessels per year during the previous five years, in a context of a worldwide production average of 1,408 vessels per year.[20] Ironically, whereas to some the elimination of shipbuilding subsidies had the apparent effect of reducing costs to the taxpayer, the actual impact may be the opposite. Navy vessels and Jones Act vessels were and still are required to be built in U.S. shipyards, but with fewer shipyards building fewer vessels, economies of scale could not be realized, so the unit cost of each ship became far greater.[21] Between 1987 and 1992, an average of fewer than two commercial seagoing vessels were built per year; as noted, between 2010 and 2016, the average was five.[22] Equally serious has been the loss of shipbuilding infrastructure and shipbuilding jobs, with a concurrent loss of shipbuilding skills and expertise. These are capabilities that cannot be turned on with the flick of a switch.

Since 1980, the size of the U.S.-flag fleet in international trade likewise has declined dramatically. In the early years of the Reagan administration, actions were taken to eliminate the ODS that enabled many companies to conduct operations under the U.S. flag.[23] These subsidies were provided by contract, so these payments had to be phased out over time as contracts expired. As ODS contracts were not renewed, the majority of U.S.-flag companies ceased operations or simply went bankrupt. This created a crisis for the military, which requires a capable U.S. Merchant Marine to carry equipment and supplies in the event of a national emergency. To remedy this situation, the Department of Defense spent billions of dollars to purchase and convert dozens of older, foreign-owned, -built, and -operated vessels, which were placed in a Ready Reserve Force (RRF) maintained and operated by MARAD (since 1981 part of the U.S. Department of Transportation).[24] In addition—and with the urging of the Defense Department—Congress in 1996 established the Maritime Security Program (MSP), which MARAD manages. MSP essentially provides a subsidy for sixty U.S.-flag ships—notably similar to the original ODS program created by the Merchant Marine Act of 1936.[25] Currently, the MSP program is funded at five million dollars per ship, per year.[26] Considering the high cost of establishing and maintaining the RRF in combination with the MSP program, it is questionable whether the taxpayers benefited at all from the elimination of the ODS program; the reverse probably is true. In any case, the results have included the loss of nearly all U.S.

shipping companies, a great reduction in the number of U.S.-flag vessels, and the loss of thousands of skilled mariner jobs.

The MSP law requires that U.S.-flag vessels be owned and operated by a U.S. company under the management of U.S. citizens, and the sixty MSP ships indeed are "owned and operated" by U.S. companies registered in the United States. However, nearly every one of these sixty ships is owned by a U.S. company that is merely a subsidiary of a foreign company—and the parent companies and their countries may have interests different from those of the United States. According to the United Nations Conference on Trade and Development (UNCTAD), in 2018 there were 94,169 commercial deep-sea vessels in the world, of which 50,732 were merchant ships.[27] Today, including the sixty MSP vessels, there are only about eighty U.S.-flag vessels operating in international trade.[28]

As if political reversal of support for the U.S. Merchant Marine were not enough to decimate the U.S.-flag industry, attacks on the cabotage provisions of the Jones Act—periodically vigorous—have reached a new height in the last two years. Spearheaded by the Cato Institute and other special-interest groups, efforts have been made in the form of dozens of articles, conferences, and even recent proposed legislation on Capitol Hill to overturn the law.[29] While presenting no substantive and verified cost data to show that the Jones Act causes significant financial burdens to U.S. consumers in states, commonwealths, and territories served by the act compared with using foreign-flag carriers, Jones Act detractors fail to understand the law's strategic importance. First, elimination of the Jones Act poses the possibility of causing Jones Act companies to cease operating under the U.S. flag, thus further reducing the number of available U.S. merchant ships. (This would be particularly true if foreign-flag companies, subsidized by their governments, were allowed to enter Jones Act—that is, domestic American—trades.) Second, with the loss of the jobs that Jones Act companies now provide, the pool of qualified U.S. merchant mariners virtually would disappear. This would make it impossible to crew the ships of the RRF and other strategic sealift vessels. This in turn would cripple military logistics, which is dependent on these ships in a national emergency. From a security standpoint, overturning the Jones Act has the potential to enable foreign companies (particularly those subsidized by their governments) effectively to assume control of inland transportation in the United States, with the result that thousands of foreign nationals would be operating vessels inside the United States—a potential security nightmare. Finally, under similar laws, U.S. airlines are afforded the same protections the U.S. maritime industry enjoys under the Jones Act. Some airline industry professionals believe that if the Jones Act were repealed these airline protections might be eliminated as well, possibly causing the demise of the U.S. domestic airline industry, similarly to what happened to the maritime industry.[30]

Regarding port ownership and operation, whereas U.S. companies such as SeaLand Services once operated containership ports around the world, that company, like many U.S.-flag shipping companies, ceased to operate when it was purchased by a foreign-owned company. The ports and terminals once owned by SeaLand now are owned or operated by foreign port operators. The only U.S. port operator with terminal operations outside the United States is SSA Marine, which operates slightly more than a dozen terminals in ports around the world, in addition to its North American terminals. However, nearly half the interests in SSA are held by foreign nationals.[31] In a reversal from the past, numerous foreign port operators and interests have purchased or leased control of many ports and terminals in the United States, which has caused national-security concerns.[32] The United States no longer is involved in crucial maritime infrastructure in other countries. For example, there is little or no U.S. involvement in the Panama Canal; a Chinese company operates ports and terminals on both ends of the canal.[33]

In short, if a *maritime power* is defined as a nation possessing a powerful navy, a sizable merchant marine, and capable maritime industries such as shipbuilding—a definition propounded by Alfred Thayer Mahan—then the United States clearly is no longer a maritime power. Instead, the United States probably is described better as a maritime-dependent nation, and likely is defined even better as a maritime nation that soon will be dependent on the Chinese maritime industry.

THE MIDDLE KINGDOM—HISTORICALLY A MARITIME POWER?

Understandably, given its huge terrestrial presence in Eurasia, for much of its history China primarily has been viewed as a continental nation. However, China also has had a strong maritime connection and has a rich maritime past. Geography encourages China to look toward the sea, particularly in the south, where mountains block easy access to the interior and there are thousands of populated islands off the coast. For centuries, southern seaboard provinces and islands have had large populations, but a dearth of available land has made it difficult to support those populations locally, making the sea critical for transportation, trade, fishing, and communication with other Chinese regions.[34]

Today, China's land border is 13,743 miles long, and the country abuts fourteen other nations. Through its thousands of years of history, China has pursued countless wars of both aggression and defense against its many neighbors. Most, but by no means all, of these wars have been fought primarily with land forces. But China also has more than nine thousand miles of saltwater coastline, thousands of offshore islands, and several major rivers that connect to the sea, and the majority of the nation's population always has resided in coastal regions. Therefore China, to varying degrees, always has kept an eye on its maritime

interests. Chinese naval warfare began as early as the tenth century BCE and was common during the Warring States period (475–221 BCE). One story holds that in 471 BCE the great Chinese philosopher Confucius sought a leadership position with the Kingdom of Yue but was turned down because he lacked knowledge of naval operations.[35]

Throughout most of its very long history, China has been a major manufacturing power, oftentimes the world leader. For thousands of years countries across the Eurasian landmass have sought Chinese goods. The long, overland passage called the Silk Road emerged as the major east–west trading route in the fourth century BCE.[36] Over the centuries that followed, the Silk Road continued to be a major trading route between China and the Middle East, and even to Europe; Chinese goods found their way to the Roman Empire. Eventually, the Silk Road expanded to include seagoing routes across the Indian Ocean to Middle Eastern and African ports. In his book *China as a Sea Power 1127–1368,* author Lo Jung-pang notes that "China tried to become a seapower (in centuries past); in particular, during the Qin and Han dynasties and later during the Sui and Tang dynasties." He further notes that during the three centuries from the Southern Song to the early Ming period (twelfth century CE to fourteenth century CE), the maritime and overseas activities of the Chinese were so great that China was more of a sea power than a land power. It was by using its naval and maritime power, across many centuries, that China went abroad to trade, and even to colonize other Asian lands.[37]

Chinese maritime power in centuries past reached its height during the first Ming period (1405–33), and especially during the reign of the third Ming emperor, Yongle (1402–24). He dispatched the renowned military commander Zheng He (1371–1433), known as the "Ming admiral." From 1405 to 1433, Zheng completed seven extraordinary voyages, during which he sailed with as many as 250 ships and upward of thirty thousand men to destinations in southern Asia, the Middle East, and East Africa.[38]

The main purposes of these military-oriented voyages were to expand Chinese influence throughout the Indian Ocean area and the Middle East, seek tribute for the Chinese court from local rulers, expand Chinese cultural influence, and improve trade. According to Naval War College professor Andrew Wilson, a key difference between European and Chinese efforts to seek trade during the early European age of exploration is that the Ming voyages did not seek trade so much as "the gravitational pull of the Chinese market (from these voyages) brought trade to [China]"—a phenomenon seemingly similar to the dynamic favoring China in the twenty-first century.[39]

During the Ming period, China's navy and merchant marine clearly were the largest and most powerful in the world, and their sphere of influence expanded

wherever Zheng's fleet landed. At the time, Chinese maritime technology far surpassed that of the Europeans. For example, the Chinese invented the compass and the rudder, which were huge innovations that enabled mariners to navigate and control vessels better on long voyages. Zheng's fleet included ships over four hundred feet in length. (By comparison, Columbus's *Santa María* was somewhere between sixty-two and eighty-five feet in length.) It is reasonable to assume that, had the Chinese wished to pursue ocean exploration and trade into the Atlantic and the Mediterranean and to Europe and even the Americas in the decades after Zheng's voyages, they likely would have become the dominant maritime power on earth, eclipsing European efforts.[40]

For a complicated set of reasons, however, the Chinese abandoned their efforts to pursue great voyages beyond local Chinese waters after the death of Emperor Yongle. Following Admiral Zheng's seventh and final voyage, the new Ming emperor had the fleet destroyed, after which harsh punishments were decreed and imposed on those who even attempted to trade beyond Chinese waters.[41] One law imposed the death penalty for building a ship with more than two masts, and a later law did the same for a ship with more than one mast.[42] In essence, except for coastal trade and fishing, the Chinese, under the second Ming dynasty, largely abandoned the ocean.

This happened at the time when European countries were on the cusp of the age of exploration that was made possible by the development of new maritime technologies—many of which were based on lessons learned from Chinese nautical technological innovations such as the compass and the rudder. As the Europeans came to dominate global trade in the seventeenth through nineteenth centuries, the Chinese would pay dearly for their lack of maritime power. Their navy was largely ineffective and they no longer possessed a capable merchant marine by which to trade with other nations. For centuries this enabled the Europeans increasingly to impose countless demands on the Chinese and control Chinese seagoing trade, eventually resulting in "the century of shame" (extending from the mid-nineteenth century to the mid-twentieth century).[43] This fact has not been lost on the leadership of the PRC in recent times, and it helps to explain why the Chinese have taken such great steps to become not only *a* global maritime power but *the* dominant maritime power in the world today.

European control of China's seagoing trade continued into the twentieth century, following the collapse of the Qing dynasty in the early 1900s.[44] The world wars, Japanese occupation in the 1930s and '40s, and the civil war between the Nationalists and Communists decimated the Chinese economy. Following World War II, virtually all Chinese seagoing trade, both foreign and domestic, was carried in foreign-owned and -flagged ships. In 1950, the PRC merchant marine officially consisted of only seventy-seven ships, and the majority of these were

either unseaworthy or lying at the bottom of rivers and ports. Through the 1950s, China enjoyed a rather close relationship with the Soviet Union, and the Soviets encouraged Polish ships to carry Chinese seagoing trade; in fact, for many years the Polish merchant marine was China's primary provider of ocean transportation. During these years, there actually were no Chinese-flag ships engaged in international trade. As far as PRC ports and shipyards went, the picture was equally dismal in the 1950s. There were no shipyards capable of building ocean-going ships, and ports were hugely inefficient and few in number.[45] The Chinese did not own, lease, or operate any port terminals outside the mainland.

Despite the poor condition of the Chinese maritime industry in the early years of the PRC, the Communist Party's leadership fully grasped the importance of the industry and placed great emphasis on building a capable maritime industry in all sectors: ships, ports, shipyards, and mariners. It was clear to Mao Zedong's government that China needed a domestic maritime industry, particularly in coastal and river trades to compensate for the poor quality of roads and railroads.[46] With Soviet maritime expertise and the use of Soviet-built equipment, particularly engines, China began building domestic ships in the early 1960s. The initial building rate reached ten ships a year in 1960, but this fell to two following the deterioration of Sino-Soviet relations. The shipbuilding picture remained poor for many years because of the lack of Chinese technology and engineering capability and the inability to develop and build critical elements such as ship engines. In terms of ship ownership, in 1961 the state-owned China Ocean Shipping Company (COSCO) was formed under the Ministry of Communications. COSCO owned and controlled vessels under both Chinese and foreign flags. (In the 1960s the PRC began relying on foreign flags to operate many Chinese-owned ships. At the time, this included use of the British and Somali flags.)[47] The first voyage of a PRC-flag ship outside Asian waters was by SS *Heping,* which carried cargoes from China to the Republic of Guinea in West Africa in 1962. The Chinese merchant marine continued to grow through the 1960s, reaching more than three hundred ships by the early 1970s. Shipbuilding during this period remained a very limited industry, particularly since China did not have the expertise to develop and build nautical equipment and engines.[48]

Through the 1970s and into the 1980s, the PRC continued to emphasize the development of its maritime industries, including shipping, shipyards, and ports. The number of PRC ships engaged in international trade doubled during this period. More ships were added to the Chinese flag-of-convenience fleets, particularly using the Somali and eventually the Panamanian flags. During these years, PRC ships began "cross trading," which involved carrying cargoes to and from ports other than China, and charging freight revenues in U.S. dollars, making the practice a good source of hard currency. In 1978, the number of PRC ships

in international trade surpassed that of the United States, and by 1982 China's merchant fleet ranked seventh in the world in size.[49]

Of particular note during these years was the development of China's port and shipbuilding industries. Major efforts were undertaken to modernize Chinese shipyards, and with technical assistance from European, Japanese, and Singaporean shipbuilders the Chinese began building ships for domestic and export markets. Costs per ship were so low and demand was so high that Chinese yards had to suspend order books until shipbuilding capacity could be increased. During this period, ports also radically improved in capacity and capability. From 1959 to 1979, there was a 3,750 percent increase in cargo throughput in Chinese ports, but dock capacity had increased by only 30 percent. Given this serious situation, major efforts were undertaken to develop and build port infrastructure, including the introduction of container-handling equipment.[50] Through the next three decades, Chinese leaders continued to increase the capability and capacity of their maritime industries dramatically, in ship ownership, shipbuilding, port development, and a multitude of related industries. Today, China's maritime industry, in all sectors, is the largest in the world by far, and it still is growing rapidly.

THE CHINESE MARITIME INDUSTRY TODAY

The PRC government's decades-long support of the Chinese maritime industry has included substantial, even aggressive, financial subsidies, laws, and policies designed to enable all sectors of the industry to grow at phenomenal rates. Currently, with more than 5,500 merchant ships engaged in international trade, Chinese companies (including Hong Kong–based companies) own more ships than those of any other nation on earth.[51] Chinese container-shipping companies combined carry more containers than the world's number one carrier, Maersk Line. This represents nearly 20 percent of all the containers carried by the top twenty carriers.[52]

Chinese companies own or operate more ports and terminals around the world than those of any other country.[53] These Chinese companies include Hutchison Ports, COSCO Ports, China Merchants Ports, Shanghai International Port Group, and Qingdao Port International.[54] In fact, by 2015 "two-thirds of the world's top fifty container ports had some degree of Chinese investment in them, if not majority ownership and control, and this number is growing." These ports handle 67 percent of the world's shipping containers.[55] Chinese port companies in all ports around the world handle 39 percent of the total volume of containers—nearly double the share of the next largest port operator, which is headquartered in Singapore.[56] Of the top twenty ports in the world by cargo throughput (2016–17), fourteen are located in China.[57] Almost "under the radar," Chinese port companies acquired 49 percent ownership in France's CMA CGM

port operations, which has given Chinese companies operational control of Houston's Terminal Link port and South Florida Container Terminal in Miami.[58] COSCO has long-term lease/operations stakes in the ports of Los Angeles and Seattle as well.[59]

By 2017, China was the number one shipbuilder in the world, as measured by the number of ships completed, new orders, and pending orders. Over 40 percent of the world's commercial ships now are built in China, and this percentage is growing as shipyards in other countries no longer can compete and are shuttered.[60] (Notably—and troubling from a USN perspective—during a mere eight-year period, from 2009 to 2017, the Chinese developed and built eighty-three warships for the Chinese navy, which now is the second-largest navy in the world, and within a few decades or less is expected to be the largest.)[61] With 150 modern cutters and hundreds of other vessels, the China Coast Guard is the largest such service in the world.[62] Numbered at more than two hundred thousand vessels, China's fishing fleet also is the largest in the world.[63]

One of the secrets of Chinese successes in the incredible growth of the nation's maritime sector is the Chinese emphasis on maritime education—in nautical science, marine engineering, and maritime business. More than 115,000 students attend the several Chinese maritime universities and colleges.[64] Finally, China is a global leader in ship finance, providing funds for international shipping companies seeking to buy, build, or lease ships, particularly those from Chinese shipyards. In 2008, no Chinese bank was listed in the top ten of the world's shipbuilding-loan institutions; a decade later, the top two banks were Chinese—both state-owned institutions.[65] By 2025, it is projected that Chinese banks will provide 50 percent of all shipbuilding loans.[66] This means that, although China may not own or operate large numbers of the world's commercial ships, it will have influence, if not control, over a majority of the world's merchant fleet, because it will hold the mortgages on a major percentage of ships owned by companies in other countries.

China has made no attempt to hide its aspirations to influence, if not dominate, the world's maritime industry. In 2015, the Shanghai International Shipping Institute, a state-owned research institute, released a report, "China Shipping Development Outlook 2030." The report offers several conclusions. First, "China will remain the largest cargo trader in the world and will take a dominant role in global container shipping." Second, China will double its shipping engaged in worldwide trade and control at least 15 percent of that trade. To do this, China will become the number one shipowner in the world. (It already is.) Ship operators will evolve to become "global logistics providers" (much like other large containership operators, such as Maersk). The report notes that privately owned Chinese shipping companies will account for "over 70% of China owned ships." (However, this runs contrary to the current trend in China of state ownership,

which does not allow private-sector companies into the industry.) The report suggests that Chinese foreign-flag fleets will comprise upward of 90 percent of Chinese-owned ships. With regard to ports, the report notes that "throughput at Chinese ports will reach 505 million TEUs [twenty-foot-equivalent containers] by 2030." Without providing specific metrics, the report indicates that "Chinese enterprises will build port networks around the globe, especially investing in port networks in South America, Africa, Southeast Asia, the Middle East, and other developing countries with strategic cooperation with China." Finally, the report emphasizes China's role as a global leader in ship financing and marine insurance.[67]

HOW CHINA IS REALIZING ITS MARITIME AMBITIONS: CHINESE MARITIME STATE-OWNED ENTERPRISES

China's Qing dynasty ruled the country from 1636 to 1912, a period of gradual but persistent incursion by Europeans, and eventually by the Japanese, into Chinese trade and influence. The Opium Wars with the British in the mid-nineteenth century saw Chinese military forces destroyed by the British, who then forced the Chinese to allow the British Empire to import opium into China in exchange for Chinese goods. Thus began "the century of shame," during which Britain, France, Germany, Russia, and Japan essentially carved China up into spheres of influence.[68]

Following the civil war in China that ended in 1949 with the defeat of Nationalist forces by Communist forces on the mainland and the establishment of the PRC, China's economy was in complete shambles. For the next several decades, under the absolute rule of Chairman Mao, China essentially pursued a policy of isolationism and self-reliance under which the Chinese people were expected to produce agricultural and manufactured goods without the influence or assistance of outside nations.[69] Mao's policies further destroyed the Chinese economy and caused the death of untold millions of people by starvation.

Following Mao's death in 1976, Deng Xiaoping came to power and relentlessly pursued a policy of opening up China to the rest of the world by boldly seeking foreign investment and trade. Knowing that he could not abandon the façade of communist/socialist ideology, but likely knowing the failures of pure communism and socialism, Deng adhered to a strict policy of pursuing what he called "socialism with Chinese characteristics."[70] The Chinese Communist Party continues to use the phrase today. It is purposefully imprecise, but in broad terms it refers to an economy that the state essentially controls while allowing varying degrees of private investment and ownership.

Under Mao's leadership, state-owned enterprises (SOEs) were established in all sectors of the economy. These SOEs essentially operate as companies owned

by the state. SOEs, in China, typically are managed at a provincial or even municipal level. Others are managed at the central government level by the State-Owned Assets Supervision and Administration Commission (SASAC).[71] The problem—as is typical of many government organizations worldwide—is that SOEs, lacking financial incentives, are inherently inefficient and often become bloated with choking bureaucracies and unproductive workers.

Deng knew this, and therefore introduced market-based reforms, including the potential for private investment and ownership. Notably, Deng focused on commercial shipbuilding as a critical industry, and under his leadership in 1982 the China State Shipbuilding Corporation (CSSC) SOE was established. In 1999, a second SOE was formed out of CSSC: the China Shipbuilding Industry Corporation (CSIC). These two SOEs dominated shipbuilding in China.[72] In 2019, they were reunited into one larger SOE.[73]

Over the decades since Deng, the role of SOEs has continued, with them exercising control over certain sectors of the Chinese economy but with private investment in SOEs being introduced to varying degrees and with varying success. (Of Chinese SOEs, 66 percent are listed on the Chinese stock exchange.) Today, privately owned companies actually employ more workers than SOEs, and these privately owned companies account for the majority of China's gross domestic product (GDP).[74] However, in certain sectors SOEs maintain absolute control. One such sector is the maritime industry, which China views as a strategic industry vital to the interests of the nation.[75] Despite statements in 2015 from Jin Jiachen, a director at the Shanghai International Shipping Institute, that Chinese ocean-shipping companies would privatize to a large degree, there is little evidence this has happened or will do so.[76] Furthermore, under Chinese president Xi Jinping there is new emphasis on and support of SOEs and less interest in privatizing many industries, including Chinese maritime industries.[77]

COSCO is an SOE. The company operates a fleet of well over fifteen hundred vessels calling on over a thousand ports worldwide. The COSCO fleet includes most types of merchant ships, such as tankers, bulk ships, roll-on/roll-off (RO/RO) vessels, and containerships. In 2015, COSCO merged with the SOE China Shipping Group, retaining the name of China COSCO Shipping Corporation.[78] COSCO expanded further in 2017 with the government-funded $6.7 billion acquisition of Orient Overseas Container Line (OOCL), a public company formerly based in Hong Kong. COSCO now is the third-largest containership operator in the world.[79] Even before its acquisition of OOCL in 2017, COSCO for a time had taken the lead as the number one container-shipping company in the world. With its acquisition of OOCL and its continued aggressive expansion policies, it is quite possible that COSCO will take the number one spot in container shipping permanently.[80]

For years, the global trend in the container-shipping business has been increasing consolidation, leaving fewer and fewer container-shipping companies. China has taken full advantage of this trend, using the power of COSCO. A United Nations think tank associated with UNCTAD contends that there are now too few container-shipping companies left to ensure adequate competition.[81] By mid-2018, the top ten container-shipping companies carried 75 percent of the world's shipping containers, with COSCO as the number three carrier, carrying over 12 percent of the world's containers. The UNCTAD report notes that the top container companies have formed three alliances that effectively are cartels. On the positive side, these alliances potentially reduce costs and rationalize service, which can lower freight rates; on the other hand, according to UNCTAD, they instead can create a serious risk of establishing corporate oligopolies that will reduce competition and constrain service.[82] The Ocean Alliance consists of COSCO and CMA CGM (of France); the 2M Alliance links Maersk (of Denmark) and Mediterranean Shipping Company (MSC, of Switzerland); THE Alliance combines Hapag-Lloyd (of Germany), Yang Ming (of Taiwan), and ONE (of Japan). An effort by Maersk, MSC, and CMA CGM in 2014 to form an alliance to be known as the P3 Alliance was blocked by the Chinese government—a clear example of governmental intervention designed to support COSCO. Notably, in 2015 the Export-Import Bank of China (CEXIM) agreed to provide a billion dollars in loans or credit to the French CMA CGM to build new ships—in Chinese shipyards. Since that time, Chinese ties between COSCO and CMA CGM have continued to deepen.[83]

As noted earlier, in the port sector China is the global leader in owning, leasing, and operating ports and terminals around the world. Most Chinese companies in the port and terminal business are SOEs; these include COSCO, Shanghai International Port Group, China Overseas Port Holdings, and China Shipping Group. China Merchants Holdings and Hutchison Port Holdings are additional Chinese companies engaged in global port ownership and operation that ostensibly are private companies but have Chinese government investment and oversight.[84] In 2013, China Merchants purchased a 49 percent share of France's CMA CGM's Terminal Link, which operates in many countries, including the United States. Of particular note, reports in September 2019 indicated that China Merchants Holdings was in discussion with CMA CGM to invest further in that company's port assets. These actions give rise to speculation, if not concern, regarding how much more of CMA CGM's shipping and port operations the Chinese will purchase.[85]

China's shipyard sector grew from the 1980s through the first decade of the twenty-first century, with some 1,647 shipyards built in China. By 2010, China had become the number one shipbuilder in the world.[86] As noted earlier, the

largest Chinese SOEs in the shipbuilding business were CSSC and CSIC; they merged in 2019. Following the financial downturn in 2008, many Chinese private-sector shipyards went bankrupt, while the shipbuilding SOEs received massive government loans and subsidies. By 2014, three-quarters of all new orders went to Chinese SOE shipyards.[87]

Despite possible, if not probable, inefficiencies within maritime SOEs, they enjoy numerous advantages over private-sector companies. They have easy access to huge loans and subsidies from the central government. In 2017, for example, the Chinese government announced it would invest $26 billion in COSCO over the five-year period ending in 2022. Given that COSCO already is number three in container shipping, an investment of $26 billion easily could propel the company into the number one spot, possibly leaving in its wake the bankruptcy of other major container-shipping lines, which already are becoming fewer in number each year owing to ongoing consolidation.[88] In addition to the possible infusion of substantial state funds to help SOEs compete with private-sector Chinese and international companies, SOEs also enjoy blanket protection in times of fiscal downturns and uncertainty, as well as huge preferences in terms of government policies and regulatory treatment.

China can use its substantial market power in shipping to achieve dominance over its competitors. A classic example of this involves the Brazilian corporation Vale SA. Vale is a large iron-ore mining company based in Brazil. As a major consumer of iron ore, China has been a crucial customer of Vale for many years. No doubt to save transportation costs and better manage logistics to China, late in the first decade of the twenty-first century Vale's leadership made the decision to build ultralarge iron-ore bulk carriers instead of chartering vessels to carry the company's iron ore to China.[89] Vale chose Chinese shipyards to build these vessels. However, when the vessels were completed and began carrying iron ore to China, Chinese officials would not let the Vale bulk ships enter Chinese ports, citing their immense size as a "safety issue." Vale was forced to sell the vessels to COSCO, which in turn leased them back to Vale on long-term charter.[90] Presumably this somehow must have made the ships safer, because they then were allowed to enter Chinese ports. This is a clear example of protectionism; COSCO's leverage as an SOE prevented Vale from entering the trade except on terms that COSCO accepted.

Chinese government banking entities clearly support the Chinese maritime industry in all sectors, including shipping, ports, and shipbuilding. Huge sums of capital have been made available to the industry for projects that promote Chinese geostrategic goals, not merely normal business investment. The $26 billion that Chinese banks provided to COSCO, mentioned earlier, is a good example of this. In 2017, the chairman of SASAC noted "the importance of SOEs

as a mechanism for the government to direct the economy and achieve political objectives."[91]

THE "NEW SILK ROAD," THE BELT AND ROAD INITIATIVE—PART OF CHINA'S MARITIME STRATEGY

China has been an economic and manufacturing powerhouse for much of its very long history. Since ancient times, Chinese goods have found their way west via the overland Silk Road through Central Asia, and eventually they traveled across maritime trade routes through the Indian Ocean that were established by Arab traders. As noted earlier, over the period from the fifteenth century into the twentieth century Europeans gradually eclipsed Arab traders as European countries and companies took virtual control of all Chinese imports and exports, resulting in the "century of shame." When the PRC was established in 1949, this clearly was a situation its government was determined to change. It has done so slowly but steadily through the decades since 1949.

At the Eighteenth National Congress of the Communist Party of China, in 2012, China for the first time "elevated the construction of a strong maritime country" to the level of a national goal.[92] By 2013, China had become the world's dominant commercial maritime industry leader. But far from being content with the country's maritime achievements, President Xi announced in 2013 that the PRC would establish a 21st Century Maritime Silk Road, later called the One Belt, One Road initiative, and eventually the Belt and Road Initiative (BRI).[93] The vast majority of BRI funding comes from Chinese policy banks (SOEs), such as the Chinese Development Bank and CEXIM, as well as large Chinese financial institutions, including the Asia Infrastructure Investment Bank, the New Development Bank, the Industrial and Commercial Bank of China, the Bank of China, the China Construction Bank, and the Silk Road Fund. These institutions are state owned, or at least state controlled. To date, these Chinese financial institutions have invested, or committed to do so, nearly one trillion dollars in loans for ports and terminals, railroads, power plants and grids, and other transportation-related infrastructure.[94] With little exaggeration, the BRI can be called the most expansive, aggressive, and costly transportation and infrastructure scheme ever developed in human history. Currently, thousands of BRI infrastructure projects already have been built, are under construction, or are in the planning stages.[95]

The Chinese have indicated that the BRI ultimately will involve a total of eight trillion dollars in investments in sixty-eight countries that are home to 65 percent of the world's population.[96] Its two major initiatives are the Silk Road Economic Belt, an overland route to Europe via railroads and roads, and the Silk Road Maritime Road, an east–west route via the sea. While the BRI has both land and sea components, the maritime aspect is the dominant one by far. In 2016,

for example, 1,700 trains carried cargo from China to Europe via land corridors through Central Asia, carrying an estimated 150,000 containers. With BRI investments in these corridors, the Chinese estimate that in 2020 the number of containers carried by BRI roads and railroads will have risen to five hundred thousand. By comparison, the maritime sea routes from China to Europe in 2014 alone carried some twenty-two million containers, and BRI investments along the Maritime Silk Road are projected to increase this number greatly in the years ahead.[97] According to the Chinese government, there are three "blue passages," or BRI maritime routes, one of which runs "from China to Africa and the Mediterranean, another to Oceania [in the Pacific] and South Pacific, and a third through the Arctic to Europe."[98] The BRI also includes projects in Latin America and the Caribbean. Another major BRI initiative is known as the Digital Silk Road.[99]

President Xi has thrown the full weight of his leadership and reputation behind the BRI, and it is hard to overemphasize the full implications of this massive initiative. The BRI may be an outgrowth of former Chinese president Jiang Zemin's Going Out policy; however, it is much more prodigious in scale. At the Nineteenth Party Congress, in 2017, Xi projected that "by 2050, China will have become a global leader in terms of composite national strength and international influence." The BRI is a major factor enabling this evolution to happen at present, and that will continue to be so. Currently, China's maritime industry—its "blue economy"—already represents 10 percent of the country's GDP, and this number will increase as maritime BRI projects reach fruition.[100]

China's public statements on the BRI note "that BRI will greatly benefit humankind and create a new era of world trade and globalization."[101] According to the official Chinese news agency Xinhua, the purpose of the BRI is to "promote policy coordination (between countries), connectivity of infrastructure, unimpeded trade, financial integration, and people-to-people bonds." Xinhua goes further to suggest that, among other things, the BRI "will improve the marine environment, promote development and eradicate poverty, enhance cooperation on marine resource utilization, upgrade marine industry cooperation, facilitate maritime transport, strengthen connectivity of information and networks, improve security and search and rescue, and create innovative growth."[102] These are lofty goals, and it can be argued that there is some truth in many of these claims.

It is important to understand, however, that from a Chinese perspective the BRI has many additional advantages. Successful efforts under the BRI will increase export markets for China, which means more money and jobs in China. BRI projects themselves provide jobs for Chinese construction companies and tens of thousands of Chinese construction workers, since one of the prerequisites for a country to accept BRI funding is to employ Chinese construction companies

and allow Chinese workers to build the targeted infrastructure in whatever country receives the BRI loans.[103] In BRI port projects, Chinese companies and workers provide everything: finance, design, construction, operation, even dredging.[104] The Chinese construction companies that build BRI infrastructure are almost all SOEs, such as the China Communications Construction Company, the China Harbor Engineering Company, and the China Road and Bridge Corporation.[105]

However, there are many drawbacks and concerns regarding BRI. Some analysts conclude that in many cases BRI is nothing more than a "debt trap." Poorer nations that accept BRI infrastructure funding eventually become unable to fulfill debt payments, resulting in Chinese takeover of the infrastructure. A 2018 study completed by the Center for Global Development noted that "twenty-three countries are at risk of debt distress as a result of BRI loans from China."[106] The port of Hambantota in Sri Lanka is a clear example of this. The Sri Lankan government received a Chinese BRI loan of one billion dollars to build a new port. By 2017, Sri Lanka was unable to repay the loan. This resulted in China obtaining a ninety-nine-year lease to control the port completely.[107] In another instance, in October 2019 the following was noted in testimony before the U.S. Congress: "In 2019, the Kenyan newspaper *Daily Nation* reported it had obtained a leaked copy of the agreement between China and Kenya for the construction [under BRI] of the Mombasa–Nairobi Standard Gauge Railway Project. According to Kenyan media, the contract states that China could take possession of the port of Mombasa should the Kenyan National Railway Corporation default on its $2.2 billion repayments to China's Exim Bank."[108]

Chinese loans often are provided at a higher interest rate than comparable loans from other countries and sources. The Chinese SOE banks are successful in securing these loans at the higher rates because, in most cases, for a variety of reasons, funds would not be available from any other source. In some cases, Chinese loans are sought because they do not come with the specific requirements ("strings") attached that other sources, such as the World Bank, often impose on those seeking a loan. In the case of the port of Hambantota, for example, no competitors were interested in providing Sri Lanka a loan.[109]

There are also real fears (and examples) of BRI funding leading to local corruption. Chinese companies involved in BRI projects have been "accused of corruption and collusion with local politicians in Equatorial Guinea, Malaysia, and Bangladesh, among many other countries."[110] The BRI SOE China Communications Construction Company and all its subsidiaries have been shown, in multiple instances, to have used bribes to officials and their families in many countries where the company and its subsidiaries had business or planned to conduct business.[111]

Perhaps most troubling are the political influence and favors that Chinese authorities demand in exchange for BRI funding.[112] Via such funding in 2016, China's SOE COSCO obtained a controlling interest (51 percent) in the port of Piraeus in Greece; this proportion was due to increase to 67 percent in 2020.[113] It comes as little surprise that in 2017 Greece and Hungary (also a recipient of BRI funding) vetoed a "joint EU [European Union] statement criticizing China based on human rights." The year before, both countries had refused to sign a joint EU statement that criticized China's actions in the South China Sea.[114]

In some cases, BRI projects have failed to produce tangible benefits for countries even while at the same time saddling them with debt. Vanuatu is a case in point. Under the BRI, the Chinese constructed a new cruise-ship pier in the country, at a cost of one hundred million dollars. Once completed, however, the new facility failed to meet expectations and adversely affected the country's economy.[115]

As *Forbes* notes, "there are often some key differences between how Chinese maritime companies operate internationally and what their projects look and feel like. . . . While China's new array of port holdings are fundamentally economically motivated projects, there is a glaring political dimension as well." By controlling major ports in key countries, China maintains more control over its import and export supply chains. Through investment and ownership, China in many cases can exercise political influence over other countries and help ensure that these countries stay friendly to Chinese interests. According to *Forbes,* "China is creating a new paradigm in the twenty-first century where economic leverage is the key."[116] In African countries, through loans and BRI investments, China has gained considerable political leverage. In Djibouti, for example, China holds over 80 percent of the nation's debt. In Zambia, it is reported that China will take over the power grid because of the country's inability to pay back Chinese loans.[117] Following the 2008 financial crisis, Iceland was in serious financial peril as a result of banking failures. In response to this, and in the absence of EU and U.S. support, Iceland accepted Chinese loans and investments that stabilized the economy. Since that time, Chinese-Icelandic relations have blossomed, which provides support for China's BRI efforts in the Arctic.[118]

SUMMING UP THE THREATS FROM CHINESE MARITIME DOMINANCE

In all respects, China is a global power, and the United States and other countries can expect it to assert its interests, as is normal. However, as numerous observers have noted, in some industries China has acted in a particularly aggressive manner, with a determination to dominate those industries globally. This certainly is the case with the maritime industry. While Chinese SOEs in the maritime industry certainly seek to make money, they also serve the political interests of

the Chinese state, and in some instances they take actions that result in *expected* financial losses because those actions serve the policy goals of the Chinese government. While it is true that Chinese initiatives such as the BRI stand to benefit dozens of countries and their populations in some ways, Chinese BRI funding and the related maritime dominance give China sizable political leverage and influence. According to Carolyn Bartholomew, chairman of the U.S.-China Economic and Security Review Commission, a "major goal of BRI [and the concurrent dominance of China's maritime shipping industry] is to open more markets for Chinese goods, displacing goods and services currently provided by the U.S. and other countries."[119] Since the United States has retreated almost completely from the global maritime industry through a lack of interest in U.S.-flag shipping and international port ownership and operation, Chinese goals of controlling access to overseas markets have become ever easier to achieve.

As China's maritime dominance in shipping, global port ownership, maritime finance, and shipbuilding continues to grow—as is expected and detailed in Chinese strategic plans and documents—China concurrently will gain political power and influence. It would be naive to think this will not affect nations around the world, including the United States and members of the EU. One only need consider the recent debacle that occurred during the summer of 2019 when a National Basketball Association (NBA) general manager expressed support for protesters in Hong Kong. The government in Beijing was outraged and demanded an apology. The situation threatened the NBA's multibillion-dollar business in China. The result: the NBA backpedaled. The association released a statement in English that "affirmed both Beijing's concerns and the league's support for individuals educating themselves and sharing their views on matters of importance to them." But—unbeknownst to most people—the NBA also issued a different statement in Mandarin that stated, "We are extremely disappointed in the inappropriate comments by the General Manager."[120] Similarly, a flight attendant working for a subsidiary of Cathay Pacific, an airline based in Hong Kong, voiced her support for the Hong Kong protesters. The PRC government ordered the airline to dismiss the flight attendant, and it did so.[121] While these events were relatively minor, one only can imagine the demands that China could make on countries, including the United States, given further dominance in the global maritime industry. In 2016, for example, the Dalai Lama visited Mongolia, which greatly displeased the Chinese. So China closed its border with Mongolia—which is landlocked. This severely affected Mongolia's economy.[122] In yet another example of Chinese bullying, a November 2019 *New York Times* article noted that Chinese officials recently had been outraged with the Czech Republic. Developing relations between the two countries and massive Chinese "investment, trade, and business deals" had prompted the Czech president to declare that "the Czech

Republic would become China's gateway to Europe." All was well until various events caused Czech leaders to question the commitment their country had made to the "one China" policy, and even to venture to demonstrate support for Taiwan. The result was soured relations with the Chinese, who then backed away from PRC-Czech business deals. China even implemented a policy restricting Chinese tourists from visiting Prague.[123] Recent history is replete with other examples of China bullying countries and companies, including firms in the United States, into complying with its wishes—"or else." Increasing dominance in the global maritime industry through ship and port ownership, maritime financing, and BRI funding will ensure the Chinese have ever-increasing leverage to do the same in the decades ahead. Meanwhile, the United States stands idly by. As far as international shipping and port operations are concerned, the United States has absolutely no leverage at all. What is worse is that lack of action on the part of the United States clearly threatens America's global trade.

Chinese control in the global maritime industry is the result of aggressive strategic planning coupled with favorable government policies backed by the power of SOEs and subsidies and other forms of government funding. There simply is no way for private-sector companies in the global industry to compete with this on their own. No matter what the economic conditions, SOEs have access to massive capital that the private sector simply cannot marshal. Further, to protect SOEs, the Chinese government can restrict outsiders' ability to compete and can enact laws and implement other policies that benefit its SOEs—and it has done so. The Chinese have shown themselves to be masters at this as they developed and promoted their maritime industries over decades.

A major concern is that the global maritime industry has been consolidating in all sectors, meaning that with each passing year there are fewer and fewer companies in all sectors of the industry. This is true in shipbuilding, ship operation, and port ownership and operation, despite the fact that the industry continues to grow as the global economy becomes more integrated.

Container shipping is but one powerful example of this. Forty years ago, it would have been difficult, if not impossible, to identify all the ocean shipping companies that operated freight vessels carrying global trade; there were hundreds of such concerns, including dozens of U.S.-flag companies. Today, container-shipping companies carry some 60 percent of all seagoing trade, and there are many more and larger vessels carrying freight (now mostly in shipping containers). But the number of companies has been reduced drastically through acquisitions and mergers. In early 2018, the top fifteen containership operators carried 70 percent of the global trade; just six months later the number had been reduced to ten companies carrying the same portion of the trade.[124] In 2019, the top five companies carried the majority of shipping containers.[125] In order by size, these

were A.P. Moller / Maersk (Danish), Mediterranean Shipping Company (Swiss), COSCO (Chinese), CMA CGM (French, with an association with COSCO), and Hapag-Lloyd (German). The existence of fewer and fewer companies restricts competition and can affect service. As noted in an earlier section, UNCTAD contends that too few container-shipping companies remain to ensure adequate competition.[126]

To make matters worse, the companies noted above operate within only three shipping alliances, which also include smaller companies. These shipping alliances are essentially cartels, thereby further restricting competition. These alliances—the 2M Alliance, the Ocean Alliance, and THE Alliance—together control 91 percent of global container shipping.[127] The large numbers of megacontainerships built over the past few years or on order have created overcapacity that will linger for many years. This has resulted, and for the foreseeable future will continue to result, in lower freight rates, which could force other companies out of business, spurring even more consolidation in the industry.[128] The largest of the containership operators, Maersk, even has suggested that severe competition will result in only three large companies carrying the vast majority of global trade in containers—no doubt with China's COSCO being one of those three, if not number one.[129]

The presence of fewer and fewer companies in any industry tends to result in higher costs to consumers and poorer service. As COSCO takes more control over the world's container shipping, the Chinese government will gain more and more political leverage over countries that rely on its container-shipping services and port ownership and operation for their international trade. Economic theory suggests that if there are too few companies in an industry, such that service and pricing affect consumers adversely, new companies will form to enter the industry, improve competition, and positively affect costs and service.

Unfortunately, this will not happen in the ocean shipping industry—unless host governments subsidize the new companies. Entering the global shipping industry, particularly container shipping, requires billions of dollars and many years to build vessels, establish service, and obtain port and intermodal connections. It would take years to receive positive returns on investment, and the likelihood of positive returns would be questionable in any case. In other words, the likelihood of attracting investors to form new container-shipping companies is poor, given the economics and time considerations involved.

Still another concern is the current profit margins in container shipping. One of the reasons the industry has consolidated is that in trying to compete and in building large fleets of megacontainerships, freight rates have been driven down, which has pushed companies and investors out of the industry, fueling ongoing mergers and acquisitions that have reduced the number of companies drastically. Naturally, investors are motivated by profits, and if profits are lacking there is an

understandable desire to sell unprofitable assets and move on to greener pastures. With the power of subsidies and other forms of government financing as well as favorable legislation and policy assistance, Chinese SOEs in shipping and the maritime industry at large can weather financial storms and economic downturns. They further have the funding and capability to buy out private-sector companies during economic downturns. Yes, Chinese SOEs, like private-sector companies, are motivated by profit, but they also are motivated by Chinese government policy and political ambitions.

This all makes for a potentially dangerous situation as far as the global container-shipping industry is concerned. For example, A.P. Moller / Maersk is a public company owned largely by the Maersk family and other investors; MSC is completely privately owned, by a Swiss family; and CMA CGM is a public company owned by investors, as is Hapag-Lloyd. What will happen if global container rates, already depressed, reach a point at which shipping families and investors grow tired of poor profit margins and decide to withdraw from the business to put their funds into more-profitable ventures? In December 2018, Moody's cut Maersk's credit rating—already not the best—from Baa2 to Baa3, "which is at the bottom of the investment grade bond rating."[130] In the fall of 2019, CMA CGM reported a second straight quarterly loss and, as was noted earlier, previously had sold 49 percent of its global port-operations entity, Terminal Link, to a Chinese company to reduce its debt. (There are no data on the second-largest container-shipping company, MSC, because it is entirely privately owned by a Swiss family.) In total, container shipping worldwide is on shaky ground, and further consolidation is likely. This author speculates that the Chinese government, through COSCO and other Chinese companies, will be more than happy to purchase any containership companies that fail. This happened as recently as 2017, when COSCO purchased the 150-year-old OOCL. So further consolidation in the container-shipping industry is possible, with China benefiting and COSCO taking even more dominant control of the global industry, which will result in greater leverage, political and otherwise, for the Chinese government.

Throughout, this article has referred numerous times to how the Chinese government subsidizes the country's maritime industries in every sector, and the degree to which it does so. This is despite the fact that in 2001 China became a member of the World Trade Organization (WTO). WTO rules expressly prohibit government subsidies.[131] In the maritime sector, the Chinese simply ignore these WTO rules, and apparently the rest of the world acquiesces. One Harvard study indicated that in the shipbuilding industry alone China subsidized shipyard costs by between 13 and 20 percent from 2006 through 2016.[132] It is clear that vast Chinese government funding has been provided to ocean-shipping giant COSCO as well. Given the implied acceptance of this by the rest of the world

and on the basis of past performance, there is no reason to expect the Chinese to stop subsidizing their maritime industries. One might argue that Chinese government subsidies of the country's maritime industry benefit other nations and people by providing lower-cost shipping, but subsidies distort the market and ultimately can result in the creation of oligopolies or even monopolies, which then can dictate service and costs, and in the case of China can exert political influence as well.

While China merely is poised to dominate the world's container shipping, it already dominates shipbuilding and global port ownership and operation. For decades, the top three shipbuilding countries in the world have been Japan, Korea, and China. Over 40 percent of the world's commercial ships now are built in China, and this percentage is growing as shipyards in other countries no longer can compete and so cease to operate.[133] China is the global leader in ship finance by providing funds for international shipping companies seeking to buy and build ships, particularly in Chinese shipyards.[134] This means that, although China may not own or operate large numbers of the world's commercial ships, it has influence, if not control, over more than just Chinese-owned ships, because it holds the mortgages on a major percentage of ships owned or operated by companies throughout the world. In 2017, for example, Chinese SOE banks provided ship-construction loans of over twenty billion dollars, primarily for construction in Chinese shipyards. Chinese strategic plans call for China to increase its leadership in ship-construction financing in the decades ahead.[135]

From a military point of view, in 2015 the Chinese government issued new guidelines to Chinese shipping companies and shipyards, *Technical Standards for New Civilian Ships to Implement National Defense Requirements.* These guidelines lay out construction and equipment requirements to ensure that Chinese ships can support the forces of the People's Liberation Army, including the People's Liberation Army Navy (PLAN). These guidelines pertain to containerships, RO/RO vessels, bulk ships, and general-cargo ships.[136] These measures will give China—as the number one shipowner in the world, with thousands of ships under its control—unparalleled strategic sealift capabilities, if not greater overt military power.

Also a matter of concern is the possibility that ports that China constructs or operates under a BRI initiative ultimately may be used by its military, particularly the PLAN. The Chinese already have constructed and are using a PLAN base in Djibouti. In July 2019, the Chinese defense minister commented that "China is willing to deepen military exchanges and cooperation with the Caribbean countries and Pacific island countries under the framework of OBOR [BRI]." Chinese laws compel Chinese companies and SOEs to comply with requests and demands from Chinese security and intelligence organizations and the military. This enables these agencies to have global and easy access to intelligence in

the sixty-eight countries receiving BRI funding and throughout the thousands of other maritime and BRI projects. Chinese intelligence agencies will benefit further as BRI funds are made available to install Huawei 5G equipment in BRI ports and terminals throughout the world.[137] When COSCO gained ownership and control in the Greek port of Piraeus, for example, the company replaced the network infrastructure with all-Huawei equipment.[138]

Senior U.S. military personnel and members of Congress have raised the concern that Chinese dominance in the port industry around the world ultimately could restrict access to critical ports the U.S. Navy needs. Chinese intelligence agencies' obvious penetration into these ports will affect U.S. military interests and security adversely.[139] Might China, through its BRI funding or through bribes, demand that foreign governments deny access to the U.S. military? It is a very real possibility. Djibouti, for example, has been a recipient of BRI funding, and China holds the majority of Djibouti's debt. As noted, the country now has a PLAN military base. Djibouti also happens to be an important logistics hub for the U.S. Navy and the U.S. Central Command. Might the Djiboutian government restrict or deny USN access to this base as a result of Chinese influence, funding, or bribes?[140] Might this same tactic be used in other regions of the world where the U.S. Navy and other elements of the U.S. military operate?

In 2015, Michael P. Pillsbury, the director of the Center on Chinese Strategy at the Hudson Institute, authored a book, *The Hundred-Year Marathon: China's Secret Strategy to Replace America as the Global Superpower*. The title supplies the book's thesis. The author is not only a China expert but a fluent speaker and writer of Mandarin, which gives him particular insights into what the Chinese really are thinking. As he frequently notes in the book, the Chinese often say one thing in an English text but something completely different in the Chinese version of the same text. With this approach, the Chinese often are able to fool Western scholars, journalists, and political leaders who do not read and write Mandarin about what their true motives are. In fact, Pillsbury notes that one of the main strategies the Chinese have used throughout their history has been to deceive others about their true intentions. The ancient Chinese military thinker Sun-tzu, for example, emphasized the importance of deception more than any other military doctrine.[141]

Yet as the Chinese have become the world leader in all aspects of the global maritime industry, including ship ownership, port and terminal ownership and operations, shipbuilding, ship finance, and maritime education, they have demonstrated plainly their intention to use the maritime industry to further the strategic, economic, and political goals of the PRC. Dominance in the maritime industry, along with concurrent multitrillion-dollar efforts through the BRI,

will give China truly unparalleled power. The Chinese clearly are trying to sell a positive message—that these efforts are designed "to kindle a new era of globalization, a golden age of commerce that will benefit all. . . . As Western countries move backwards by erecting walls, China is contriving to build bridges, both literal and metaphorical."[142] And to be sure, there are positive aspects to what the Chinese are doing. China's decades-long dominance in manufacturing has provided the world with a plethora of consumer goods at moderate prices, which has raised the standard of living for people around the world. Not surprisingly, the Chinese are pursuing maritime ambitions as a source of revenue, trade, and jobs for the Chinese people as well. These alone are not nefarious actions. Still, huge Chinese maritime SOEs with access to massive government funds and subsidies and the protection of Chinese laws and policies give the Chinese government astonishing political leverage and control—on a scale potentially greater than anything seen in human history.

There are those in the EU and the United States who have expressed concerns over BRI and the global dominance of the Chinese maritime industry. But these voices are too few and too often essentially have been ignored, leaving a lack of action by Western governments. If the Chinese are not "secretly planning to replace the U.S. as the global superpower," as Pillsbury suggests, they seemingly are attempting something very close to it. Their actions prove this, and the West's inaction makes their success more possible every day. The time is long overdue for the United States to reinvigorate its maritime industries and challenge the Chinese in the same game by using the very same techniques the Chinese have used to gain dominance in the global maritime industry. The private-sector maritime industry cannot do this alone—the U.S. maritime industry simply cannot compete against the power of the Chinese state. The United States and allied governments must bring to bear substantial and sustained political action, policies, and financial support. To do anything less is to cede control of the world's maritime industry and global supply chains to China, and perhaps to force the United States and its allies to enter their own "century of shame."

NOTES

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ONE APPROACH, TWO RESULTS

The French Army, the U.S. Marines, and the Frontal Assault during the World Wars

Ethan S. Rafuse

In the past few decades, students of military affairs have looked repeatedly to the first half of the twentieth century, and the efforts of military organizations to adapt to the changing tools of war during and between the two world wars, to understand why some military organizations are successful on the battlefield and others are not. It is safe to say that few, if any, military organizations have fared worse at the hands of students of the interwar period than the French army. This is not surprising. The disastrous 1940 campaign seemed to offer a compelling verdict on the contrasting approaches that French military institutions and their German counterparts took to develop uses for the military tools that were introduced in the previous war. In contrast, the U.S. Marine Corps traditionally has received high marks for its efforts during the interwar period. This, too, is not surprising, as its solution to the problem of how to make a successful opposed amphibious landing was a key contribution to the U.S. victory over imperial Japan.[1]

What follows is another look at the innovation efforts that the French army and the U.S. Marines made during the interwar period and the methods they brought to the World War II battlefield and the particular problems they faced. There is little doubt that there were significant differences both in their organizational approaches to these problems and in the results those approaches achieved on the battlefield. To be sure, the starting point for assessing any military organization must be its effectiveness on the battlefield. Yet closer examination of the problems each faced and the

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answers they developed reveals more in common between the French army and the Marines than the operational results they achieved suggest, and offers a compelling reminder when studying the past to heed Sir Michael Howard's famous admonition to do so in width, depth, and context.[2] It is not the intent of this article either to deny the Marines their well-merited laurels by association with the defeated French army, or to ignore the serious issues with the latter that make it a useful subject for considering undesirable qualities in a military organization. Still, there is a danger that making battlefield outcomes the sole determinant of how we assess military organizations can lead to insufficient appreciation of context, contingency, and detail, and thus an incomplete understanding.

BREAKING THROUGH THE TRENCHES

Of course, the military organizations that prepared for and fought the Second World War did so with the Great War's oppressively heavy shadow cast over nearly everything they did. The problems illustrated by the tactical and operational stalemate that prevailed on the western front for most of the war, and its eventual resolution, weighed most heavily. When the western front consolidated at the end of the dramatic maneuvers of 1914, the French army and its British and Belgian allies had fended off defeat but faced what proved to be a formidable task—that is, driving the German army off the soil of France and Belgium before the strain and hardship of their societies' near-complete mobilization for the war became unsustainable.[3] With the German flanks effectively secured by the mountainous Swiss border and the English Channel, turning movements and envelopments were unfeasible. Consequently, the French had to figure out how to conduct successful frontal assaults on fortified enemy positions that would create a tactical penetration deep and broad enough to be exploited operationally. The means available to French commanders were effectively limited to artillery and infantry; new technologies such as the tank and airplane were too immature to play more than a supporting role. This simplified their operational problem considerably and made the solution rather obvious: use artillery to smash the enemy's lines, then send foot soldiers "over the top" to cross the deadly ground and attack the enemy's lines. They hoped that the artillery bombardment would weaken the defenders sufficiently that the attackers could find a hole in the line or, with effort, create one that was large enough for a complete penetration to be accomplished, which would set the stage for a full tactical and operational exploitation.[4]

If the concept was simple enough, successful execution was another thing altogether. The problem was not that artillery was incapable of creating conditions for a tactical penetration. From the time the method first was applied, the French and their allies demonstrated that, while crossing no-man's-land was costly, afterward infantry usually could find the enemy sufficiently weakened

by the preliminary bombardment to achieve a tactical penetration—a "break-in" that gave the Allies possession of part of the enemy line. The problem was sustaining the assault's momentum to turn the penetration into a breakthrough. In essence, once a penetration had been created, the two sides found themselves in a race. With the assault force exhausted and bloodied by the effort of creating the penetration, the tactical commander then had to send reserves up in the right place to exploit the breach before the tactical defender could bring up his own reserves to contain it and launch a counterattack. It was exceedingly difficult for an attacker on the western front to win this race. It invariably took more time for reports of a successful penetration to reach the headquarters of the attacking commander than it did to reach the defender's, who also would have been alerted by the attacker's bombardments to begin moving up reserves. Any penetration site was necessarily in range of the defender's artillery and the high density of manpower and infrastructure on the western front meant that the attacker's own artillery support was less effective the farther he advanced. The defender's rear area also was usually better ground over which to move reserve forces than was the artillery-chewed expanse of no-man's-land that attacking reserves had to cross.[5] The French and their allies made notable improvements and refinements to the type and employment of their artillery, such as the development of the rolling barrage, that forced the Germans to make fundamental changes to their defensive tactics; however, they remained unable to turn tactical penetrations into tactical breakthroughs that could be exploited to achieve operational success.[6]

By 1916, a growing number of commanders concluded that the problems associated with the frontal assault in the face of modern firepower meant that efforts to achieve an operational breakthrough were not realistic. Even French commander Joseph Joffre, who had been an enthusiastic supporter of offensive operations early on, accepted the merit of this argument, albeit reluctantly.[7] Improvements in artillery and infantry techniques kindled hopes for a breakthrough after tactical successes at the Somme and Verdun in 1916. However, the Germans then developed the defense-in-depth concept in response, negating those offensive innovations and leading to the catastrophe of the Allies' Nivelle offensive in April 1917. After that failure, Philippe Pétain, who had been skeptical of pursuing breakthroughs since the beginning of the war, became head of the French army and brought, in the words of historian Douglas Porch, "a sobering note of reality to . . . operations."[8]

Pétain advocated what some referred to as a "bite and hold" approach. Heavy artillery was employed as before, leveraging refinements in both tools and techniques, to saturate and destroy as much of the enemy front line as possible. Infantry then went over the top, with a rolling barrage preceding its advance. This necessitated a tightly planned, phased advance over a broad front, and

the discretion granted to lower-level commanders was circumscribed tightly to ensure that troop movement was coordinated with the barrage. This enabled enough men to reach the enemy lines to achieve a tactical penetration. Unlike before, though, the idea of exploitation was eschewed, so once the enemy lines were seized there was no "race" to expand the penetration or bring up reserves. In line with plans developed by higher headquarters, the infantry then would halt and, instead of attempting to turn the penetration into a breakthrough, would stay under the cover of its own artillery and repel enemy counterattacks. The infantry would consolidate its new position while heavy artillery was moved forward. "The artillery conquers the positions," Pétain famously explained, "the infantry occupies them."[9]

The effectiveness of these tactics was hard to dispute. By the end of 1916, improvements in heavy artillery enabled attackers to inflict unsustainable destruction on defending troops packed in forward defensive lines. This led to significant reductions in the number of troops holding forward defensive positions, which made tactical penetrations all the more achievable. Under Pétain, the French successfully resumed offensive operations in late 1917, providing a much-needed boost to morale in the French ranks following the mutinies that broke out after the failed Nivelle offensive.[10] In 1918, these methods were incorporated into a broader offensive approach by conducting a series of limited and methodical operations at one point along the German line before moving on to another. While tanks and aircraft played a role in these operations, it was improvements in the efficiency and effectiveness of artillery, and its liberal use, that were "the true artisan of victory," in Hew Strachan's words. In the process of methodically pushing the enemy back—while also conserving French manpower—these operations imposed enough casualties on an exhausted German army that its leaders had no choice but to throw in the towel in November 1918. Thus, the French were able to claim victory at the end of the war, not through the dramatic blows on the battlefield envisioned at its start, but by exhausting the enemy through the accumulation of numerous limited tactical gains over time.[11]

INTERWAR DOCTRINE DEVELOPMENT IN FRANCE AND GERMANY

Despite their success in World War I, there were significant issues with France's methodical tactics. First, these methods do not produce quick, dramatic, or decisive battlefield results. Consequently, they could not be employed by a belligerent whose strategic and operational situation required a quick battlefield decision. The differences in the broader strategic contexts in which France and Germany found themselves thus drove divergent doctrine development models in the lead-up to the next war.

France Commits to the Bataille Conduit

As Robert A. Doughty and other historians have chronicled, France's methods also contained the seeds of a problematic military culture and a faulty approach to innovation during the interwar period that translated into disaster for the French in 1940. During the 1920s, French doctrine anchored itself to "the bataille conduit, or methodical battle," which "resembled the methods used in World War I, but it represented an intensification of those methods," "a step-by-step battle in which units obediently moved between phase lines and adhered to strictly scheduled timetables. . . . [A]rtillery provided the momentum and the rhythm for the attack." Infantry was expected to make only relatively shallow advances "to remain under the umbrella of artillery protection."[12] Whatever the merits of these tactics, there is no dispute that they had significant ramifications for the culture of the army that adopted them. By their nature, they required a very top-down approach to tactical planning and battlefield execution, as the employment of infantry and artillery had to be tightly coordinated, and plans had to be followed as close to the letter as possible, leaving little room for lower-level initiative.[13]

In service of this doctrine, French leaders systematically purged the aggressive and audacious spirit of Napoléon from the minds of their officers in favor of "rigid centralization and strict obedience," and thereby undermined their ability to respond effectively to unexpected developments on the battlefield.[14] It also led the French to take flawed approaches to the study of World War I and the possible employment of armor. Focusing almost exclusively on operations that validated the methodical battle doctrine, they failed to recognize new possibilities suggested by the war and improvements in air and armor technology. They tied tanks and infantry to the use of firepower rather than empowering them to exploit tactical penetrations dynamically and aggressively on their own. Furthermore, the hierarchical, top-down culture fostered by the methodical battle doctrine had the effect of discouraging open discussion of new ideas and concepts, especially in the country's institutions of professional military education, which became little more than inculcators of doctrine. This precluded the sort of honest, realistic consideration of doctrine and organizational agility that might have enabled the French army to recognize and address problems in its planning and execution of operations in 1940 more quickly. "France committed the glaring mistake," Doughty concludes, "of trying to impose her way of war on the enemy without having suitable recourse should this attempt fail. . . . The notion of a carefully controlled and tightly centralized battle belonged to another era."[15]

Germany's Dynamic Response

Further damaging "bite and hold" tactics in the eyes of historians is the contrasting and more dramatic approach that the German army took to tactical innovation

during and after World War I. By late 1917, German resources had been exhausted to the point that it was impractical for army leaders to follow the French approach of relying on large amounts of heavy artillery and methodical operations. Moreover, the need for a dramatic victory before American matériel and manpower irreversibly tipped the scales against them on the western front meant that any approach that could not achieve a tactical and operational breakthrough was inadequate to Germany's strategic needs. The result of German efforts to address the problem was the infiltration tactics of 1918, which also laid the foundation for the army's doctrinal and organizational development during the interwar period and were directly connected to the victory of 1940.[16]

The fundamental issue, as noted earlier, was how to employ artillery and infantry to enable the attacker not just to achieve a penetration but to win the race between his effort to exploit and the defender's effort to contain that tactical penetration. Instead of following the French massed artillery and infantry approach to wear down the enemy, the Germans applied speed and maneuver to the problem. Rather than pursuing destruction of enemy positions through heavy bombardments, German doctrine used short, concentrated bombardments with the objective of neutralizing defenders through disruption. This would be followed quickly by probes to identify weak points in the enemy defenses. *Sturmtruppen* (storm trooper—also called *Stoßtruppen*) assault units then would come up to maintain momentum against the assault's preeminent objective and bypass strongpoints and pockets of resistance, push deep into the enemy position, and attack headquarters and rear areas. Sustaining the momentum of the advance and focusing more on the depth of attack than on maintaining a continuous line, in combination with the high tempo of the German advance, frustrated the ability of defenders to bring up reserves to contain penetrations by disrupting command and control. With command broken down and Germans in their rear, bypassed positions would be taken not through attritional battles but by the defenders concluding that further resistance was pointless and giving up the fight.[17] In contrast with French methods, in which the artillery dictated the pace of advance, which produced an "entire system . . . designed to be propelled forward by pressure from above, rather than by being pulled from below," the German tactical system dictated that the pace and direction of the battle be determined by the efforts of the frontline infantry, with junior officers encouraged, indeed required, to exercise tactical initiative aggressively.[18]

The results of these methods when applied in the initial German offensives of 1918 were impressive. With remarkable speed, German attacks achieved dramatic penetrations of the enemy line and reached depths in Allied positions that had not been seen on the western front since the beginning of the war. Unfortunately for the Germans, while they had figured out how to break through the enemy

position fast enough to win the tactical race between the offense and defense, this simply meant that the race then shifted to the operational level, where they were less prepared. The Germans did not have the means to win this race, as the Allies were able to slow down and contain breakthroughs owing to their ability to bring up operational reserves and to the exhaustion of the German attack troops. The German effort was undermined further by the high command's desire to maximize lower-level initiative at the expense of adequate planning to connect tactical successes to a larger operational framework.[19]

Although they ultimately failed to achieve a favorable operational or strategic decision in World War I, imperial Germany's tactics have won praise from students of military affairs, who believe they seeded Germany's successful interwar innovation, which produced decisive victories in the opening campaigns of World War II and sustained high combat effectiveness throughout the war. The fact that they offered a qualitative approach and solution to the problem, in contrast to the more quantitative French methods, also contributed to their appeal to students of war, who generally have viewed strategies of attrition negatively, especially those in the United States who faced the challenge of countering Soviet mass on potential Cold War battlefields.[20]

Moreover, just as appealing as the tactical methods themselves is the process that the Germans used to approach the problem and how it shaped, and was shaped by, German military culture. In the process of developing doctrine during the war and continuing to develop it afterward, the Germans demonstrated a salutary and impressive openness to ideas (even those that were not their own, as illustrated by their debt to concepts proposed by French junior officer André Laffargue). The German approach was characterized by a willingness to listen to frontline commanders, engage them in the process of doctrinal development, and encourage them to exercise aggressiveness and initiative on the battlefield. Thus, the Germany army went into the interwar period with a dynamic approach to doctrine, as well as an offensive mind-set that translated into a commitment to maneuver and the ruthless exploitation of battlefield opportunities, in contrast to the French, whom one scholar described as "frozen in time somewhere between Verdun and the autumn offensive of 1918." Altogether, the German army's aggressive mind-set, in Williamson Murray's words, "provided a solid framework for thinking" about the problems of the modern battlefield. This translated into the doctrine and organizational ethos that proved so deadly in 1939 and 1940.[21] Although infiltration tactics did not deliver operational or strategic victory in 1918, the methods and the process by which the Germans developed and built on them during the interwar period and the dramatic results they produced on the battlefield have been lauded as manifestations of a "genius for war" that contrasted conspicuously with their more insular and hidebound French counterparts.[22]

THE AMPHIBIOUS PROBLEM AGAINST JAPAN

Western Europe was not the only place where the first half of the twentieth century saw militaries confronting the challenge of figuring out how to use the modern tools of industrial warfare effectively. As the United States contemplated the prospect of a military contest for the western Pacific—something strategists had been doing for decades by the time Japan attacked Pearl Harbor in December 1941—it was clear that it faced compelling and challenging problems. For a United States that sought to restrain and contain Japanese power in Asia, it was a question of how to project combat power across the world's largest ocean. Of particular concern in this context was the task of securing possession of small islands between Hawaii and mainland Asia so they could be used to support a drive across the Pacific by the U.S. Navy's capital ships. The U.S. Marine Corps, partly as an act of organizational self-preservation, took up the challenge of figuring out a solution to one of the critical military problems confronting American strategists: how to conduct successful amphibious attacks that would enable American forces to wrest control of those islands from the Japanese.

Few challenges appeared as formidable in the interwar period as making an opposed amphibious landing. If conducting a successful frontal assault on continental Europe seemed daunting in light of the experience of World War I, an opposed landing in the face of modern firepower to seize the small islands that the United States would need to defeat Japan seemed so hazardous that few were eager to take up the challenge. Although the first few decades of the twentieth century saw Western militaries conduct several successful amphibious operations, these largely validated, in historian Allan R. Millett's words, "a similar basic concept for successful landings: land where there is no opposition from ground forces." Meanwhile, the miserable, unsuccessful effort of the British and French at Gallipoli in 1915 cast a dark shadow over the question of how to conduct amphibious operations against a beach defended by a belligerent equipped with modern firepower.[23]

However, the operational and strategic objective that amphibious operations were to serve—securing western Pacific islands to support the U.S. Navy's offensive drive toward Japan—was critical to American prospects for success. Of particular interest were islands that could serve as air bases to support the U.S. Navy's capital ships against the Imperial Japanese Navy in the course of a grand naval offensive across the western Pacific toward Japan—islands that otherwise the Japanese would use to support their resistance against the American advance.[24] The problem, of course, was that, while there were many islands between Hawaii and Japan, the need for islands that could support airfields narrowed the geographic options significantly, and it could be assumed safely that islands the American planners identified as operationally desirable also would be obvious to Japanese planners. Thus, the possibility that there would be islands of strategic

and operational value that remained unoccupied appeared slim. Moreover, many of these islands would be small enough, and offer so few practicable landing sites, that the most effective approach to amphibious operations—namely, landing where there will be no resistance—would not be available.

There were, to be sure, many problems unique to the opposed amphibious assault. "Moving men and equipment across open water in the face of carefully calculated fire is an extremely dangerous proposition," historian Jerold E. Brown laconically notes. "Furthermore, the defender has the advantage of time and space . . . and he often has time to prepare his defenses."[25] On top of this were the headaches associated with coordinating land, sea, and air elements. In addition, since the United States would be conducting these operations as part of a massive strategic and operational exercise in power projection across the world's greatest ocean, there were a host of logistical issues that were incomparable in both scale and character to what those charged with developing doctrine for the battlefields of Europe faced.

Given these difficulties, it is not surprising that, in contrast to the travails of the French army, the story of how the U.S. Marine Corps solved the problems of opposed amphibious operations in the Pacific often has been cited by students of innovation as a great example of institutional effectiveness. In line with the concept for a war with Japan laid out in War Plan ORANGE, the visionary Marine commandant John A. Lejeune entrusted a young, somewhat eccentric, lieutenant colonel named Earl "Pete" Ellis with the task of studying the theater of operations. Ellis's observations, laid out in Operation Plan 712 along with careful study of maneuvers conducted during the 1920s, then were incorporated into an effort to think critically about and develop doctrine—in contrast to the French schools, where the mission was to inculcate doctrine and "school solutions"—in which vital work was done by students and faculty at the Marine Corps schools at Quantico. Throughout, the Marines demonstrated the sort of commitment to rigorous professional military education; to entrusting critical tasks to junior officers such as Ellis and Majors Charles Barrett and DeWitt Peck; and to open, honest discussion of problems that was absent in the French army. The product of these efforts—more remarkable because the Marines simultaneously were analyzing their ongoing operations in the "Banana Wars," producing the *Small Wars Manual,* which remains an invaluable work on the subject to this day—was the 1934 *Tentative Manual for Landing Operations*.[26]

This document, officially adopted as doctrine by the U.S. Navy and distributed as Fleet Training Publication 167 (FTP 167) in 1938, laid out the conceptual framework for addressing the problems of amphibious landings. After continuing to refine the implementation of its concepts using the results of landing exercises, the Marine Corps took its amphibious doctrine to war. The first tests, at Guadalcanal and Tarawa in 1942 and 1943, although bloodier and tougher than

initially expected, validated the doctrine. They also validated the organizational approach and culture that produced that doctrine, especially the Marines' process of continual refinement as they conducted the grueling offensives that put American forces into position to bring about the total defeat of imperial Japan.[27]

Contributing to the contrast between history's glowing judgment of the Marines and that of the French army is that, while there were many differences in the specifics (French commanders did not have to devote attention to the merits of rubber landing craft or the construction of wharves, for instance), the fundamental problem the Marine Corps faced and addressed so successfully was in essence the same as the one the French army faced in Europe. Like the French and the Germans in World War I and during the interwar period, the Marines had to figure out how to combine fire and maneuver successfully to assault defenders equipped with modern firepower. The Marines' success, of course, demonstrates the methods and qualities we associate with military organizations that innovate effectively, so one must think that surely their solution more closely followed the Germans' aggressive maneuver doctrine than the French preference for mass, right?

Wrong. If the Marines demonstrated a more commendable (and Germanic) organizational ethos in the process of innovation, their solution to the amphibious assault problem was in fact more Gallic than Teutonic. Like the French doctrine of methodical battle, Marine doctrine placed heavy emphasis on firepower. In line with historical experience (not to mention common sense), FTP 167 posited that, in light of the difficulties associated with landings, "superiority of force, particularly at the point of landing, is essential to success," and that consequently "[b]eaches strongly organized for defense should be avoided if possible." In the event that an opposed landing could not be avoided, once an island had been selected for assault the U.S. Navy would endeavor to isolate it, to prevent the enemy from reinforcing it before, during, or in the aftermath of the assault. The "attacking force," consisting of "two elements of major importance, namely—The landing force [and] Naval gunfire," then would go to work.[28]

First, naval gunfire would pound the island. In its treatment of the effect sought, FTP 167 made a distinction between neutralization ("by short bursts of fire of great density to secure the advantage and effect of shock and surprise") and destruction. The manual expressed a decided preference for the former, declaring, "Destruction should only be attempted under favorable conditions." Once firepower had done its job, Marine infantry would make a frontal assault to break through the enemy's defenses—not on a narrow front, with an eye toward infiltration and deep penetration, as in the German system, but on "a wide front in order to increase the speed of the landing," avoid exposed flanks, and facilitate coordination with suppressive fire support ahead of the advancing infantry. Marine infantry would seize the enemy frontline positions that had been neutralized

by fire and then push far enough inland to secure the beach, while staying within the range of naval fire support. FTP 167 advised that "initial assault echelons are particularly apt to become disorganized during and immediately after the landing, and they cannot be expected to make deep penetrations against strong opposition," which made it "often desirable . . . to have leading assault units secure a limited objective."[29] On a small enough island, such as those that would be encountered initially in the drive across the Pacific from Pearl Harbor, anything beyond that would be unnecessary.

The Marines then would consolidate the positions they had gained, fighting off any enemy counterattacks attempting to dislodge them. Then, once the island or islands capable of supporting airfields were secured, the Navy would continue its westward advance to the next island chain. This way, U.S. forces would work their way methodically toward victory much as the Allies had on the western front in 1918. They would leverage superior resources to attack and seize one island chain, then another, attriting the Japanese armed forces as part of a larger strategy that, in cooperation with allies, also cut Japanese access to resources. Then, if the decisive naval engagement envisioned in both Japan's "interception-attrition" strategy and Plan ORANGE took place, the Japanese would be at a grave disadvantage. If not, the Japanese war effort in the western Pacific would collapse from the exhaustion of matériel and manpower.[30]

Of course, it is a truism that no plan, no matter how commendable the effort to produce it may be, survives first contact with the enemy, necessitating modification of the initial assumptions and plans. This was certainly the case for the Marines and their doctrine for an opposed amphibious landing, which first was tested truly in November 1943 in Operation GALVANIC, targeting the Gilbert Islands. Planners identified wresting possession of Betio Island, the main island in the Tarawa atoll, from its five thousand Japanese defenders as the most important objective. For the most part, the Marines' doctrine and the process that developed it were proved to be generally sound; however, the operation also demonstrated that they needed some modifications—ones that pushed Marine doctrine further in a Gallic direction.

As noted, the fire-support doctrine in FTP 167 preferred neutralization over destruction. Yet, as one Marine who landed at Tarawa later explained to an interviewer for the *World at War* series, this was not what the landing teams were told to expect. "They thought they would level the island and completely demolish everything," he recalled, "[t]hat there wouldn't be a living soul on the island." Unfortunately, the Marines who made the initial assault found that, contrary to the boasts of some naval officers, this was not the case at all.[31] Setting aside the stated preference in FTP 167 for neutralization over destruction, Colonel Merritt Edson, the Second Marine Division chief of staff, and Lieutenant Colonel David

Shoup, the commander of the initial assault force, developed a plan in which the assault on Betio would be preceded by several days of preparatory air and naval bombardment. Naval planners, however—afraid of leaving their vessels exposed in the event of an appearance by a significant Japanese naval force (as had happened in August 1942 at Guadalcanal, producing an embarrassing defeat at Savo Island)—refused to provide it. Instead, although there would be air and naval strikes for a few days before the actual attack, for the real work on the day of the assault warships would provide only a three-hour bombardment.[32]

Those who presumed that the use of artillery in a short bombardment for "neutralization," along the lines of the German tactic, would be sufficient were badly mistaken.[33] As the Marines began their assault, they were greeted with ferocious Japanese artillery and small-arms fire. The ordeal was made worse by the inability of the Higgins boats that many were using for the assault to cross the reef in front of the landing beaches, which compelled Marines to wade forward about six hundred yards under fire. Ultimately, enough Marines were able to reach shore to win the battle and secure the island—one that was not even three miles long and at no point was more than eight hundred yards across. However, even with a three-to-one manpower advantage it took American forces three days of brutal combat to eliminate Japanese resistance and claim victory—at a cost of over one thousand dead and more than two thousand wounded.[34] Not surprisingly, the heavy casualties suffered and the fact that the fight for Betio had been much, much tougher than expected provoked considerable discussion among Marine and Navy officers about how to improve their performance.[35]

"[N]ot the least" of the lessons learned, historians Benis Frank and Henry Shaw declare, "was the importance of naval gunfire." Marine planners who had chafed at the limits the Navy had imposed on naval gunfire prior to the assault on Betio had been proved correct, and in the future it was accepted that "the preliminary bombardment had to be heavier and sustained for a longer period."[36] If the difficulties at Tarawa were not to recur in future assaults and casualties were to be kept to an acceptable level, a few hours' bombardment with an eye toward neutralization was not enough. "One of the great lessons learned about naval gunfire," James Stockman observes in a 1947 study for the Marine Corps Historical Section, "was the need for destruction rather than neutralization. . . . [P]reparatory bombardment and shelling to be delivered on enemy-defended islands similar to Betio would have to be increased in duration and weight, all of this with an eye toward . . . total destruction." After Tarawa, writes Joseph H. Alexander, perhaps the foremost modern scholar of Marine amphibious operations in the Pacific War, "[t]he duration and effectiveness of preliminary shelling improved . . . but the Marines always wanted more."[37] That this lesson had been absorbed fully would be evident a few months later. When the Marines

conducted Operation FLINTLOCK in the Marshall Islands in early 1944, bombardments would be longer (two days for the landing at Kwajalein Atoll, as compared with three hours at Tarawa) and heavier, with the effect that the landings were accomplished handily and the operation's objectives attained much quicker than initial plans had anticipated.[38]

SIMILAR CONCEPTS, DIFFERENT RESULTS

Why were the Marines so "French" in their approach to assault tactics? The answer is, obviously, the similarity of the specific problems they faced. Williamson Murray identifies *specificity*—by which he means "the presence of a specific military problem the solution of which offered significant advantages to furthering the achievement of national strategy"—as one of the critical factors that contributed to success or failure in innovation during the interwar period.[39] First, like the French in their approach to the German problem, the U.S. Marine Corps did not have a compelling need to bring about a quick strategic decision in its contest with the Japanese. Both the French and the Marines faced an enemy that was inferior in resources—at least if the French fought as part of a coalition, which they correctly presumed would be the case. The presumption of matériel superiority would translate naturally into the ability to bring heavy firepower to the battlefield. In addition, unlike the Germans, for the French and the U.S. Marines a successful frontal assault was a tactically sufficient and satisfactory accomplishment, whereas the Germans needed tactical assaults to set the stage for operational exploitation.[40] The small size of the islands the Marines first had to take in the drive across the Pacific envisioned by Plan ORANGE effectively eliminated the requirement for operational exploitation by the assault force.[41] Once the Marines seized the wrecked enemy front lines—and with the small size of those islands precluding the Japanese from using defense in depth to preserve manpower—they effectively had control of the island. The French army, bearing heavy scars from repeated failed efforts to translate tactical success into operational opportunity on the western front, and confident in its ability to prevail in a war of exhaustion, sought to deliver victory without the extraordinary costs that exploiting tactical penetrations produced. For all the success that the German army's infiltration tactics achieved in terms of territory gained, it came at a heavy price.

Interestingly, in a replay of what happened on the western front, improvements in the fire support provided by the Marines and Navy for amphibious landings caused the Japanese to alter their tactics as the operational geography changed. As the fighting reached closer to the Asian mainland, the islands that the Marines needed to assault were much larger than the small atolls of the central Pacific. Eschewing their earlier notion that the "enemy will be destroyed at

the beach," and having been crushed under the weight of American firepower in the Marshalls, Japanese commanders took advantage of the larger islands on which they now were fighting to abandon the method of defending forward on the beach, where their men could not hope to maintain combat effectiveness under the weight of USN gunfire.[42] Instead, echoing the German shift to defense in depth after 1916, Japanese commanders at Luzon, Iwo Jima, and Okinawa pulled back from forward positions on the beaches to concentrate their defenses inland. Consequently, American forces found themselves facing limited resistance to their initial landings, only to face a murderous task as they pushed beyond the beaches. True to the pseudo-French methods they adopted, the Marines did not approach this task by aping German tactics, which relied heavily on an assumption that disrupted defenders would surrender out of shock rather than fight to the death, and thus were ill suited for use against Japanese forces that were willing to fight to the death. Instead, they relied on heavy firepower and methodical advances to grind down the Japanese defenders in grueling, murderous battles of attrition.[43] Had such methods been briefed in 1934, it is not hard to imagine a far more friendly reception from a French audience than a German one.

Comparing the French army's and U.S. Marines' approaches to doctrinal development offers a compelling reminder that the ultimate test for assessing military organizations' approach to tactical problems is how well suited they were to the specific problem that particular military faced. It also underlines the need to be skeptical of overly simplistic conclusions about linear cause-and-effect relationships among innovation, methods, and battlefield results. As Carl von Clausewitz noted when discussing the value of historical examples to guide how to think about problems, "If anyone lists a dozen defeats in which the losing side attacked with divided columns, I can list a dozen victories in which that very tactic was employed." Unfortunately, he laments, a tendency to search for simple prescriptive lessons that results in insufficient attention to both the broader and the deeper contexts that shaped past events often has led to "superficial, irresponsible handling of history" that then produced "hundreds of wrong ideas and bogus theorizing."[44]

Industrial-age firepower presented the military organizations that fought the world wars with the daunting challenge of figuring out how to employ firepower in ways that made it possible for offensive maneuver to secure tactical, operational, and strategic objectives at an acceptable cost. In assessing how well they addressed this problem, paying attention to context is critical. To paraphrase Clausewitz, while one can point to the French experience in 1940 as one case in which methodical, firepower-heavy tactics produced failure, one also can point to the experience of the Marines in the Pacific as an example where it produced success. For that matter, General Matthew Ridgway successfully employed firepower

and methodical advances in Korea to attrit and exhaust the enemy rather than achieve a quick, decisive battlefield victory—the same strategic context in which the French and Marines developed their doctrines.[45]

France's and Germany's efforts to address the frontal-assault problem led them down different paths, to be sure, with the latter's approach seeming to have received unimpeachable validation in 1940. Yet looking at these organizations and their operations by comparing them with the efforts of the Marines complicates the picture, as does considering them in depth, as historians Robert Doughty and Williamson Murray have. Although critical in their assessments of French doctrine and institutions, in their accounts of the 1940 campaign Doughty and Murray identify an array of other factors—errors in operational planning, the by no means predetermined outcome of specific tactical events, and even plain luck—that must be weighed just as heavily as, if not more so than, doctrinal and institutional issues to explain the campaign's course and outcome. In the process, they offer a strong reminder to be cautious in identifying cause-and-effect relationships when assessing innovation, since but for a different break here or there, firepower-heavy methodical operations may well have received validation from operations in both Europe and the Pacific.[46]

Of course, they did not. Nonetheless, while giving due weight to battlefield outcomes, we must take care, to borrow from Dennis Showalter, not to approach the study of the military past in the spirit of Calvinist theology, "interpreting victory and defeat as judgments on the military righteous," and assume that our task is merely to validate and catalog the virtues of the blessed and the sins of the fallen.[47] It is important not to let this all-too-frequent bias, or the understandable desire to identify concrete cause-and-effect relationships that can be applied to the process of innovation today, prevent us from taking full account of contingency, specificity, and context in studying the past. After all, it is in considering and taking full account of all the factors that shape the course and outcomes of the efforts of military organizations in the past that Clausewitz places our best hope of avoiding "wrong ideas and bogus theorizing"—and their consequences—in the future.[48]

NOTES

1. For example, in their outstanding military history of the war, Williamson Murray and Allan R. Millett proclaim the interwar efforts of the French army "sad," while lauding the "extraordinary . . . innovations" that the Marine Corps made in amphibious warfare. Williamson Murray and Allan R. Millett, *A War to Be Won: Fighting the Second World War* (Cambridge, MA: Harvard Univ. Press, 2000), pp. 24–25, 39–41.
2. Michael Howard, "The Use and Abuse of Military History," *Journal of the Royal United Service Institution* 107 (1962), pp. 7–8.
3. Robert A. Doughty, *Pyrrhic Victory: French Strategy and Operations in the Great War*

(Cambridge, MA: Harvard Univ. Press, 2005), pp. 46–124; Michael S. Neiberg, *Fighting the Great War: A Global History* (Cambridge, MA: Harvard Univ. Press, 2005), pp. 11–37.

4. Hew Strachan, *The First World War* (New York: Penguin, 2003), p. 168; Doughty, *Pyrrhic Victory,* pp. 123–32.

5. Jonathan M. House, *Combined Arms Warfare in the Twentieth Century* (Lawrence: Univ. Press of Kansas, 2001), pp. 37–40; Timothy T. Lupfer, *The Dynamics of Doctrine: The Changes in German Tactical Doctrine during the First World War* (Fort Leavenworth, KS: Combat Studies Institute, 1981), pp. 2–4. The challenge was different on the eastern front; the 1915 German offensive in Poland illustrated how the extent of the front meant that there were more potential places to attempt a breakthrough and thus defenders were compelled to keep their reserves farther back to be able to cover more positions. This made it possible for German attackers not only to create a break-in but also to move up quickly enough to achieve a breakthrough, which forced the Russians to give up large amounts of territory. However, the eastern front's extent meant both that it was easier for the attacker to win the race with the defender and that operationally and strategically decisive points remained too far away to prevent a defeated defender from rallying in rear areas and restoring the front. For relevant studies of eastern front operations in 1915, see Norman Stone, *The Eastern Front, 1914–17* (New York: Scribner's, 1975), pp. 165–93, and Richard L. DiNardo, *Breakthrough: The Gorlice-Tarnow Campaign, 1915* (Santa Barbara, CA: Praeger, 2010).

6. Strachan, *The First World War,* pp. 173–77; Douglas Porch, "The French Army in the First World War," in *Military Effectiveness,* ed. Allan R. Millett and Williamson Murray, vol. 1, *The First World War* (Cambridge, U.K.: Cambridge Univ. Press, 2010), p. 203.

7. Doughty, *Pyrrhic Victory,* pp. 133–34, 145–48, 156–57, 162–63, 168–72, 189–95, 253–54.

8. Lupfer, *Dynamics of Doctrine,* pp. 30–35; Doughty, *Pyrrhic Victory,* pp. 323–26; Porch, "The French Army in the First World War," p. 216.

9. Doughty, *Pyrrhic Victory,* pp. 323–26, 366–70; René Radiguet, *The Making of a Modern Army and Its Operations in the Field: A Study Based on the Experience of Three Years on the French Front (1914–1917),* trans. Henry P. du Bellet (New York: G. P. Putnam, 1918), p. 77.

10. Not least of Pétain's accomplishments employing these tactics was compelling the Germans to abandon the Chemin des Dames, on which the Nivelle offensive had expended so much blood in pursuit of a breakthrough earlier in the year; see Corelli Barnett, *The Swordbearers: Supreme Command in the First World War* (London: Eyre & Spottiswood, 1963), pp. 250–55, and Doughty, *Pyrrhic Victory,* pp. 379–89.

11. Robert A. Doughty, "French Operational Art, 1888–1940," in *Historical Perspectives of the Operational Art,* ed. Michael D. Krause and R. Cody Phillips (Washington, DC: U.S. Army Center of Military History, 2005), pp. 82–83, 86–89; Strachan, *The First World War,* pp. 316–21, 324–25.

12. Robert A. Doughty, *The Breaking Point: Sedan and the Fall of France, 1940* (Hamden, CT: Archon Books, 1990), pp. 22–30; Doughty, "French Operational Art," p. 92; House, *Combined Arms Warfare,* pp. 83–90.

13. It should be noted that, in France, the top-down doctrinal and organizational approach was a consequence also of the fact that army leaders had to assume the army's wartime ranks would be filled by conscripts from a society whose appetite for military service had been dulled decidedly by the bloodletting of World War I and who had limited time in uniform to develop tactical proficiency; see Eugenia C. Kiesling, *Arming against Hitler: France and the Limits of Military Planning* (Lawrence: Univ. Press of Kansas, 1996).

14. Robert A. Doughty, *The Seeds of Disaster: The Development of French Army Doctrine, 1919–39* (Hamden, CT: Archon Books, 1985; repr. Mechanicsburg, PA: Stackpole Books, 2014), p. 4. Citations refer to the Stackpole edition.

15. Williamson Murray, "Armored Warfare: The British, French, and German Experiences," in *Military Innovation in the Interwar Period,* ed. Williamson Murray and Allan R. Millett (Cambridge, U.K.: Cambridge Univ. Press, 1996), pp. 29–34; Doughty, *Seeds of Disaster,* pp. 186, 196.

16. Lupfer, *Dynamics of Doctrine,* pp. 37–41; House, *Combined Arms Warfare,* pp. 52–53; Murray, "Armored Warfare," pp. 34–37.

17. Lupfer, *Dynamics of Doctrine*, pp. 41–49; Richard L. DiNardo and Daniel J. Hughes, *Imperial Germany and War, 1871–1918* (Lawrence: Univ. Press of Kansas, 2018), pp. 382–405.

18. House, *Combined Arms Warfare,* pp. 51–56; Doughty, *Seeds of Disaster,* pp. 97–116; Doughty, "French Operational Art," p. 91; Lupfer, *Dynamics of Doctrine,* pp. 41–53.

19. Rod Paschall, *The Defeat of Imperial Germany, 1917–1918* (New York: Da Capo, 1994), pp. 135–62; Holger H. Herwig, "The Dynamics of Necessity: German Military Policy during the First World War," in *The First World War,* ed. Millett and Murray, pp. 102–103.

20. For discussion of the jaundiced view of attrition by practitioners and students of warfare, see Carter Malkasian, "Toward a Better Understanding of Attrition: The Korean and Vietnam Wars," *Journal of Military History* 68 (July 2004), pp. 911–12, 914–17. The strain of Germanophilia in the Cold War U.S. Army was particularly evident in the work of Gen. William DePuy, who played a critical role in shaping the direction of doctrinal development and training reform after Vietnam. Henry G. Gole, *General William E. DePuy: Preparing the Army for Modern War* (Lexington: Univ. Press of Kentucky, 2008), pp. 262–64.

21. Robert T. Foley, "A Case Study in Horizontal Military Innovation: The German Army 1916–1918," *Journal of Strategic Studies* 35 (December 2012), pp. 799–827; James S. Corum, *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform* (Lawrence: Univ. Press of Kansas, 1992), pp. 5–13, 30–34, 37–49; Murray, "Armored Warfare," pp. 37–39.

22. Doughty, *The Breaking Point,* pp. 26–32; Murray, "Armored Warfare," pp. 34–45; Donn A. Starry, "To Change an Army," *Military Review* 63 (March 1983), pp. 21–23; Trevor N. Dupuy, *A Genius for War: The German Army and General Staff, 1807–1945* (Englewood Cliffs, NJ: Prentice Hall, 1977). In the past few decades, historians have trained a much more critical eye on the German military, pushing back against what political scientist John J. Mearsheimer called "Wehrmacht penis envy" in the American military and among students of warfare. See William J. Astore, "Loving the German War Machine: America's Infatuation with *Blitzkrieg,* Warfighters, and Militarism," in *Arms and the Man: Military History Essays in Honor of Dennis Showalter,* ed. Michael S. Neiberg (Boston, MA: Brill, 2011), pp. 7–9, and Williamson Murray, *War, Strategy, and Military Effectiveness* (Cambridge, U.K.: Cambridge Univ. Press, 2011), pp. 195–230.

23. Allan R. Millett, "Assault from the Sea: The Development of Amphibious Warfare between the Wars; The American, British, and Japanese Experiences," in *Military Innovation in the Interwar Period,* ed. Murray and Millett, pp. 51–53.

24. George W. Baer, *One Hundred Years of Sea Power: The U.S. Navy, 1890–1990* (Stanford, CA: Stanford Univ. Press, 1993), pp. 51–53, 120–28; Ronald H. Spector, *Eagle against the Sun: The American War with Japan* (New York: Free Press, 1985), pp. 54–59. For the evolution of American war plans in the decades prior to World War II, the institutions responsible for their development, and the assumptions behind them, see Edward S. Miller, *War Plan Orange: The U.S. Strategy to Defeat Japan, 1897–1945* (Annapolis, MD: Naval Institute Press, 1991); Henry G. Gole, *The Road to Rainbow: Army Planning for Global War, 1934–1940* (Lawrence: Univ. Press of Kansas, 2003); and John T. Kuehn, *America's First General Staff: A Short History of the General Board of the U.S. Navy, 1900–1950* (Annapolis, MD: Naval Institute Press, 2017).

25. Jerold E. Brown, "Tarawa: The Testing of an Amphibious Doctrine," in *Combined Arms in Battle since 1939,* ed. Roger J. Spiller (Fort Leavenworth, KS: Combat Studies Institute, 1992), p. 19. In their manual on defending an advanced base, the Marines listed the "main advantages" that defenders enjoyed as the following: "A distinct superiority of position, in view of the difficulties of attack from the sea against a prepared position; Knowledge and choice of terrain with excellent fields of fire; Highly organized fires employed in conjunction with obstacles placed at the water's edge; Excellent observation; Assailant's lack of information and the difficulty of conducting preliminary reconnaissance while still at sea." David J. Ulbrich, "The Long Lost

Tentative Manual for Defense of Advanced Bases (1936)," *Journal of Military History* 71 (July 2007), pp. 895–96.

26. Spector, *Eagle against the Sun,* pp. 26–27; Benis M. Frank and Henry I. Shaw Jr., *Victory and Occupation,* vol. 5 of *History of the U.S. Marine Corps Operations in World War II* (Quantico, VA: U.S. Marine Corps Historical Branch, 1968), pp. 653–56; Millett, "Assault from the Sea," pp. 72–77. Two years later, work on a complementary *Tentative Manual for Defense of Advanced Bases* was completed at Quantico under the direction of the commandant of the Marine Corps schools, Brig. Gen. Thomas Holcomb. Ulbrich, "The Long Lost *Tentative Manual,*" pp. 890–92, 901. Underscoring the importance the Marines placed on their institutions of professional military education, the same year work was completed on this manual Holcomb was made commandant of the Marine Corps. He subsequently became the first Marine officer to hold the ranks of lieutenant general and (after retirement) general. David J. Ulbrich, *Preparing for Victory: Thomas Holcomb and the Making of the Modern Marine Corps, 1936–1943* (Annapolis, MD: Naval Institute Press, 2011).
27. Brown, "Tarawa," pp. 19–26; Millett, "Assault from the Sea," pp. 90–93; Frank and Shaw, *Victory and Occupation,* pp. 656–58.
28. Office of Naval Operations, Division of Fleet Training, *Landing Operations Doctrine, United States Navy 1938,* FTP 167 (Washington, DC: U.S. Government Printing Office, 1938), pp. 4, 15.
29. Ibid., pp. 15, 113.
30. Millett, "Assault from the Sea," pp. 54–58.
31. *The World at War,* episode 23, "Pacific—February 1942–July 1945," directed by John Pett, written by David Wheeler, produced by Thames Television, aired 17 April 1974, on ITV, 4:22; Joseph H. Alexander, *Across the Reef: The Marine Assault of Tarawa* (Washington, DC: Marine Corps Historical Center, 1993), pp. 6–7.
32. Howard Jablon, *David M. Shoup: A Warrior against War* (Lanham, MD: Rowman & Littlefield, 2005), pp. 39–42; Alexander, *Across the Reef,* pp. 4–5; Jeter A. Isley and Philip A. Crowl, *The U.S. Marines and Amphibious Warfare: Its Theory, and Its Practice in the Pacific* (Princeton, NJ: Princeton Univ. Press, 1951), pp. 200–205.
33. In their critique of this approach to fire support at Tarawa, Murray and Millett declare "'neutralized' a worrisome usage since a neutralized force might very well unneutralize itself." Murray and Millett, *A War to Be Won,* pp. 344–45.
34. Brown, "Tarawa," pp. 23–26; Alexander, *Across the Reef,* pp. 3, 8–46, 50.
35. That was a luxury the French army did not have in World War II, which must be taken into account when comparing their experience with that of the Marines. Nor did they, like the Germans, have a previous campaign in Poland from which to gain practical combat experience and draw lessons. Even so, one fairly may question whether the French would have done nearly as effective a job as the Germans did, as the effort the Germans made to study critically their conduct of operations in a victorious campaign, as Murray has noted, is relatively rare in military history. Williamson Murray, "Reflections on German Military Reform," *Armed Forces and Society* 7 (Winter 1981), pp. 285–98.
36. Frank and Shaw, *Victory and Occupation,* pp. 672–74.
37. James R. Stockman, *The Battle for Tarawa* (Washington, DC: Historical Section, Division of Public Information, Headquarters Marine Corps, 1947), p. 67; Joseph H. Alexander, "Across the Reef: Amphibious Warfare in the Pacific," in *The Pacific War Companion: From Pearl Harbor to Hiroshima,* ed. Daniel Marston (Oxford, U.K.: Osprey, 2005), p. 203.
38. Robert D. Heinl Jr. and John A. Crown, *The Marshalls: Increasing the Tempo* (Quantico, VA: Historical Branch, Headquarters Marine Corps, 1954), pp. 15–16, 37, 39; Thomas W. Zeiler, *Unconditional Defeat: Japan, America, and the End of World War II* (Wilmington, DE: Scholarly Resources, 2004), pp. 29–42.
39. Murray cites the experiences of both the Marines and the French army as providing examples of military institutions that had "a concrete problem" they had "vital interests in solving," lamenting that it was nonetheless insufficient in the case of the latter to "overcome a number of systemic defects and misperceptions in French doctrine."

Williamson Murray, "Innovation: Past and Future," in *Military Innovation in the Interwar Period,* ed. Murray and Millett, pp. 311–12.

40. Notably, when the plan for the June 1944 landing at Saipan in the Marianas called for making "the landings a kind of amphibious blitzkrieg that would carry the first wave of troops more than a mile inland," and was accompanied by a poorly managed preliminary bombardment, the result was heavier casualties and tougher going in the assault than had been experienced in the Marshalls. Spector, *Eagle against the Sun,* pp. 302–304.

41. Of course, a number of factors—not least Douglas MacArthur's insatiable ego—led the United States to deviate from Plan ORANGE's single drive across the western Pacific and also undertake major offensive operations from Australia and the Solomons to New Guinea and the Philippines. Nonetheless, the advance across the central Pacific by naval forces under the direction of Chester Nimitz, in which the principles for conducting an opposed amphibious landing were tested, was conducted to a considerable degree in line with prewar plans.

42. Heinl and Crown, *The Marshalls,* p. 32.

43. Spector, *Eagle against the Sun,* pp. 495–502, 518–19, 533–40; Murray and Millett, *A War to Be Won,* pp. 496, 511–16; Zeiler, *Unconditional Defeat,* pp. 153–72.

44. Carl von Clausewitz, *On War,* ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton Univ. Press, 1976), pp. 171–72.

45. For Ridgway's efforts and methods in Korea, see Malkasian, "Toward a Better Understanding of Attrition," pp. 920–27, and Matthew B. Ridgway, *The Korean War* (Garden City, NY: Doubleday, 1967), pp. 111–23.

46. Moreover, as Jeffery Gunsburg has noted, when they met the Germans in a situation in which they could apply their doctrine in 1940, French forces performed rather well. Unfortunately, as chronicled by Doughty and Murray, this was negated by poor operational decisions made by the French high command as a consequence of their misidentification of the main German effort and the good fortune German forces experienced elsewhere at critical points in the campaign. Jeffery A. Gunsburg, "The Battle of Gembloux, 14–15 May 1940: The 'Blitzkrieg' Checked," *Journal of Military History* 64 (January 2000), pp. 97–140; Doughty, *The Breaking Point,* pp. 15–28, 135–211, 339–49; Williamson Murray, "May 1940: Contingency and Fragility of the German RMA," in *The Dynamics of Military Revolution, 1300–2050,* ed. MacGregor Knox and Williamson Murray (Cambridge, U.K.: Cambridge Univ. Press, 2001), pp. 154–74.

47. Dennis E. Showalter, *The Wars of Frederick the Great* (London: Longman, 1996), pp. 1–2.

48. Clausewitz, *On War,* p. 173.

LONDON AND WASHINGTON

Maintaining Naval Cooperation despite Strategic Differences during Operation EARNEST WILL

Richard A. Mobley

We share the Americans' long term wish to uphold freedom of navigation in the Gulf, but we differ fundamentally from them in short and medium term aims and tactics.

JOINT MEMO FROM U.K. DEFENCE MINISTER AND FOREIGN SECRETARY TO PRIME MINISTER, JULY 1987

The United Kingdom (U.K.) and the United States cooperated successfully to help end the Iran-Iraq War, but national-level differences over how to protect reflagged Kuwaiti tankers revealed surmountable fissures in coordinating operations between the two navies, judging from recently declassified documents.[1] Mutually committed to a cease-fire, freedom of navigation, and a halt to attacks on commercial shipping, the two nations were poised to maintain their rich history of national-level policy coordination and naval cooperation when the American effort to escort reflagged Kuwaiti tankers—Operation EARNEST WILL—began in July 1987.[2] Throughout the operation, Royal Navy (RN) units continued operations in the southern Persian Gulf and Strait of Hormuz, passing exercises with USN ships, and joint meetings with USN staffs. However, London's suspicions about the risks and viability of EARNEST WILL hindered Britain's ability to fulfill all of Washington's "asks," despite a largely successful record of cooperation. Perhaps anticipating notional U.S. accusations of free riding, London rightly argued privately and publicly that it already was doing its fair share for the protection of shipping in the Gulf and continued to insist on national sovereignty. The benefits of the relationship fully justified the friction encountered in attempting to coordinate naval strategies.

American leaders repeatedly thanked their U.K. counterparts for Britain's diplomatic and naval support during the U.S. Navy's effort to escort

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reflagged Kuwaiti tankers in the Persian Gulf starting in 1987, but hundreds of recently declassified British records reveal London's misgivings about the effort.[3] In particular, the sources provide background to London's efforts to distance the Royal Navy from U.S. control in the Persian Gulf and additional evidence about the United Kingdom's initial rebuff of American requests to send mine countermeasure (MCM) vessels (MCMVs) to the Persian Gulf in mid-1987.[4] Unfortunately, some of these issues—notably, London's initial reluctance to deploy MCMVs to the Gulf—also became public, and probably gave Tehran a heartening perception of disarray in the Western camp.[5]

The British archival documents illustrate the challenges of coalition warfare even under good circumstances. They also provide material for an early case study about these challenges in the Middle East, in this case coalition warfare with a close partner, one with whom the United States enjoyed excellent communications at all levels of the chain of command, agreed on long-term strategic objectives and perceptions of the adversary, and shared a rich history of naval cooperation. This article relies primarily on the archival material, with some corroboration from memoirs and published histories of the Iran-Iraq War.

The trove of evidence includes summaries of cabinet meetings and leadership exchanges with senior U.S. officials, talking papers supporting such events, written correspondence between U.S. and British national leaders, and message traffic between London and its embassies involved in monitoring the Persian Gulf. Topically the documents address assessments of U.S. naval strategy and reliability, the costs (to Britain) of the operation, and preferable courses of action, as shared among British leaders, including Prime Minister Margaret H. Thatcher, Defence Minister George K. H. Younger, Foreign Secretary Sir R. E. Geoffrey Howe, and Chief of the Defence Staff Admiral Sir John D. E. Fieldhouse. They were informed by frequent sharing of information among working-level British embassy staffs and members of the U.S. National Security Council, Department of Defense, and State Department, as well as at higher levels.

CONTEXT FOR EARNEST WILL

Earnest Will was an American response to Kuwait's request for maritime protection during the Iran-Iraq War, a conflict that by 1987 was stalemated. Iraq had expanded the war to the Gulf in 1984 to force Iran to accept a cease-fire and hinder Tehran's ability to export oil, the latter country's primary source of foreign exchange. Iran, unwilling to accept a cease-fire, reciprocated; generally, however, it responded to Iraqi ship attacks on a tit-for-tat basis while preferring to confine the war to land, where it enjoyed significant advantages.[6]

The two countries' approaches to conducting ship attacks differed considerably. The Iraqi air force typically attacked merchant ships that were in the Iranian-declared exclusion zone by launching Exocet antiship cruise missiles

(ASCMs) at suspected but not positively identified targets in or near the zone—an imprecise targeting technique that contributed to Iraq's inadvertent attack on USS *Stark* (FFG 31) in May 1987.[7] (See "Key Events" sidebar for a chronology of events through mid-1987.)

In contrast, Iran often was more selective in choosing its victims, in an attempt to dissuade Gulf Cooperation Council (GCC) countries from supporting Iraq, and to attempt to alter oil prices. In particular, Iran attacked ships associated in trade with Saudi Arabia and Kuwait because of those countries' significant financial and logistical support to Iraq. Tehran typically would identify the target using maritime-patrol aircraft or its own warships, and the U.S. Central Intelligence Agency (CIA) (according to declassified CIA analytic products) assessed that Iranian intelligence could identify which ships transiting the Gulf were associated with the United States and that Iran's navies could identify these ships for attack.[8]

Both sides occasionally laid mines (of different types) even before EARNEST WILL started, a practice that Tehran employed to blame Baghdad for the Iranian minelaying campaign. Iran and Iraq also deployed different variants of the HY-2 ASCM, the so-called Silkworm, with Iraqi B-6D bombers using one version while Iranian shore batteries used another—a similarity that Iran, again, used to try to blame Iraq for missiles that Iranian forces fired.

These dynamics changed in 1987. Following Iran's September 1986 boarding of a Soviet ship, the Soviet navy began escorting Soviet merchant ships in the Gulf.[9] To protect against an increasing number of ship attacks, Kuwait asked for Soviet and U.S. assistance in March 1987. The Soviets were prepared to reflag or lease all the tankers Kuwait required and provide for their protection—a move that spurred U.S. interest in reflagging Kuwaiti tankers.[10] Kuwait ultimately chartered three Soviet tankers.[11] A Soviet combatant—typically a minesweeper drawn from the USSR's small Indian Ocean squadron—escorted each tanker. It was a relatively low-profile operation—at least compared with EARNEST WILL.[12] Three Soviet minesweepers routinely operated in the Persian Gulf, while a cruiser and a frigate joined their parent squadron, which also included several support ships.[13]

The costs of not aiding Kuwait would have been high for the United States, according to a State Department assessment published in July 1987. Had the United States refused to aid Kuwait, the Soviet Union would have seized the opportunity to increase further its presence and role in the Gulf, likely including gaining access to area port facilities it would need to maintain any substantial protection commitment over the long run.[14]

Iran perceived Kuwait to be a near cobelligerent with Iraq, given the economic aid Kuwait was providing and its willingness to allow its ports to be used as primary arms transshipment conduits to Iraq.[15] Tehran viewed American assistance to Kuwait City as a step that would widen the war, tilt the balance toward Baghdad, and sharply increase the U.S. naval presence in the Gulf—all

Key Events in 1987 before U.K. Decision to Deploy MCMVs to Persian Gulf

25 March	United Kingdom is aware of U.S. decision to reflag[a]
17 May	Iraqi air force inadvertently attacks USS *Stark*
4 June	President Reagan requests enhanced U.K. naval cooperation[b]
8–10 June	Seven Power Economic Summit takes place in Venice[c]
9 June	Britain holds bilateral meeting with U.S. Secretary of State Shultz[d]
17 July	Prime Minister Thatcher meets with President Reagan[e]
20 July	UN passes UNSCR 598 in attempt to end Iran-Iraq War
24 July	*Bridgeton* strikes mine
25 July	Chairman, U.S. Joint Chiefs of Staff requests that United Kingdom prestage MCMVs[f]
27 July	Senior British cabinet officials formally oppose deployment of MCMVs to Gulf[g]
30 July	U.S. ambassador delivers request for U.K. minesweeping assistance[h]
30 July	Prime minister agrees that Britain should not send minesweepers to Gulf[i]
31 July	Secretary of Defense Weinberger also requests that Britain stage MCMVs[j]
31 July	Assistant Secretary of State Murphy discusses MCM support with U.K. ambassador[k]
3 August	National Security Advisor Carlucci meets with U.K. leadership[l]

a. Private secretary (FCO), "Protection of Shipping in the Gulf."
b. FCO, "Venice Economic Summit: 8–10 June 1987"; private secretary (FCO) to private secretary (prime minister), memorandum, "Venice Summit: Shipping in the Gulf," 8 June 1987, Ministry of Defence: Private Office: Registered Files, box FCO 8/6816, UKNA.
c. FCO Research Department, "Iran Annual Review, 1987."
d. FCO MED, "Venice Economic Summit: Secretary of State's Bilateral with Mr. Shultz."
e. Private secretary to Galsworthy, "Prime Minister's Visit to Washington: Meeting with President Reagan."
f. FCO to U.K. embassy Washington, "Shipping in the Gulf: Possible US Approach on Minesweepers"; defence minister and foreign minister, "Shipping in the Gulf"; Chairman, Joint Chiefs of Staff to Chief of Defence Staff, message, 25 July 1987.
g. Private secretary (MOD) to principal staff officer (Chief of Defence Staff), memorandum, "The Gulf: Minesweeping," 29 July 1987, Defence Ministry: Private Office: Registered Files, box DEFE 13/2390, UKNA.
h. Private secretary (FCO) to private secretary (prime minister), "Shipping in the Gulf: US Request for Minesweeping Assistance."
i. Private secretary (prime minister) to Lyn Parker (FCO), memorandum, "The Gulf," 11 August 1987, Defence Ministry: Private Office: Registered Files, box 13/2390, UKNA; Moseley, "Minesweeper Request Rejected"; DeYoung, "Britain Rejects U.S. Plea."
j. Ambassador Price letter.
k. U.K. embassy Washington to FCO, "Shipping in the Gulf: US Approach on Minesweepers."
l. FCO, "Call by Mr. Carlucci."

developments it was determined to avoid. Its attitudes toward Moscow were more tolerant—probably a reflection of Soviet efforts to improve diplomatic relations with Tehran and an Iranian desire to avoid confronting two superpowers simultaneously.

Perceiving such threats to Kuwait City, London urged diplomatic steps to help the United Kingdom lower the Royal Navy's profile in the Gulf.[16] Nevertheless, the Reagan administration was willing to protect the tankers, probably as an outgrowth of the Cold War and owing to a commitment to freedom of navigation and a desire to buttress its credentials with American allies in the GCC after the Iran-Contra affair in 1986 revealed that Washington had provided weapons to Tehran.[17]

After bitter congressional debate, EARNEST WILL started with a bang in July 1987 when *Bridgeton,* a reflagged Kuwaiti tanker, struck a mine near Farsi Island in the northern Persian Gulf while proceeding in the first EARNEST WILL convoy. Rather than constituting a single dramatic event, however, the escort regime evolved into a series of incidents, some occurring without warning, and intermittent American and British responses.

EXTENSIVE NATIONAL AND NAVAL COOPERATION IN THE GULF . . .

The United Kingdom and the United States worked closely at the national level while maintaining extensive naval ties in the Gulf. They pursued an overarching diplomatic strategy to help end the Iran-Iraq War and persuade the belligerents to halt attacks against neutral shipping, at least temporarily.[18] Before and during EARNEST WILL both maintained combatants in theater to protect national shipping, shared operational intelligence, and worked on naval interoperability.

London and Washington perceived that ship attacks that had been occurring in the Gulf since 1984 were an outgrowth of the Iran-Iraq War and pursued separate but coordinated measures to stop the war writ large and attacks against commercial shipping in particular. The two nations worked in concert to persuade the other members of the United Nations Security Council (UNSC) to endorse unanimously a resolution—UNSCR 598—that called for a cease-fire to end the war. The council passed the resolution in July 1987, a decision that Baghdad welcomed and Tehran, surprisingly, did not reject. UNSCR 598 called for Iran and Iraq to observe an immediate cease-fire and withdraw all forces to internationally recognized borders; requested that the secretary general explore the question of charging an impartial body to inquire into responsibility for the conflict; and prescribed that the UNSC would meet again as necessary to consider further steps to ensure compliance with the resolution.[19]

Iran, however, consistently rebuffed attempts to end the war and refused to accept a cease-fire. Given its unwillingness to comply with UNSCR 598, Washington and London pursued a second resolution that might impose sanctions against Tehran for refusing to comply; but while doing so they needed to appear to be neutral actors, to persuade the widest audience to support the problematic follow-on resolution.

Both Britain and the United States worked successfully to achieve temporary halts in ship attacks against merchant ships. London and Washington also agreed that the "Tanker War" might be paused if Baghdad could be persuaded to stop maritime attacks against Iranian interests. They judged that Iran's approach to the Tanker War operations was generally retaliatory; Tehran's ship attacks tended to follow Iraqi maritime air strikes. Both the United Kingdom and the United States judged that Iran might halt its ship attacks if Iraq did so.[20] The Foreign and Commonwealth Office (FCO) in November 1987 reminded its posts of the need to maintain pressure on Iraq to stop air attacks, "which fuel the tanker war and obscure the issue of compliance."[21]

Consequently, Washington and London repeatedly agreed to pressure Baghdad directly or via its GCC allies to halt ship attacks in the hope that Tehran would do likewise.[22] In fact, the cabinet concluded on 23 July 1987 that the most important requirement in the immediate future was to end the ship attacks. The record of that meeting states as follows: "The government was doing everything possible to mobilize pressure for this on Iraq and Iran. There was hope that the message might have some effect."[23] Iraq reluctantly agreed to halt ship attacks; there was a hiatus in the Tanker War for much of August 1987. Then Baghdad resumed air strikes against tankers and oil installations on 29 August, and Tehran resumed ship attacks two days later.[24]

The Royal Navy and U.S. Navy both operated in the Gulf to protect national shipping and cooperated in the operational and logistics spheres, although the United Kingdom, to maintain its image as a neutral player in the Gulf, preferred not to publicize some of this activity.

- Logistics: U.K. tankers supplied fuel to U.S. units in the Gulf of Oman, according to a Ministry of Defence (MOD) memo written in May 1987.[25] Prime Minister Thatcher instructed senior British officials in July 1987 to remind the Americans of the help the United Kingdom already was providing them through Diego Garcia, its base in the Indian Ocean.[26] At U.S. request, London in July 1987 allowed Washington to use Diego Garcia to move American minesweeping helicopters into the region.[27]
- Armilla patrol: London established the Armilla patrol in 1980, using two combatants to protect U.K.-flag and -registered ships transiting the Strait of

Hormuz and portions of the Persian Gulf extending as far as Bahrain.[28] British officials wrote that the patrol, with its deliberately low profile, had been broadly successful in protecting British shipping.[29] Proud of the Armilla patrol's record, they wrote in June 1987 that the United Kingdom "protects far more ships and has a far greater proportion of its resources in the Gulf than the U.S."[30]—an assertion that the U.S. State Department seconded. Britain announced then that the patrol had escorted a hundred British vessels in the area over the previous year.[31]

- Expanded RN presence: Britain added a third combatant to its Armilla patrol in spring 1987 to enable more-frequent patrols in the Persian Gulf and to allow RN units to be near most British merchant ships passing through the Strait of Hormuz.[32] After initially turning down Washington's request, London also committed four Hunt-class MCMVs and a support vessel to the Gulf in August 1987.
- Joint operations: An MOD memo issued in May 1987 stated that the United Kingdom had agreed to exchange information on threat assessments, daily shipping movements, and force dispositions with local USN forces. The ministry also endorsed briefings with U.S. Middle East Force ships. Although praising the value of exercises with U.S. carrier strike groups outside the Gulf to enhance British antiair warfare capability, it discouraged RN exercises with USN units inside the Gulf as of May 1987—to avoid giving the impression of being "in bed with" the Americans.[33]
- Command, control, and communications: USN and RN ships regularly established secure voice communications with each other. The United States also provided assistance to Britain in accessing the Airborne Warning and Control System (i.e., AWACS) downlink in the Gulf.[34]

Given this background of a long-term naval presence and existing cooperation with the United States, London was sensitive to potential insinuations of free riding and pressures from Washington for it to contribute more to a naval coalition to execute EARNEST WILL. In talking points prepared for the foreign minister in June 1987, his subordinates wrote that congressional pressure following Iraq's accidental attack on USS *Stark* in May 1987 had led to American pressure on allies for more burden sharing, "preferably in a U.S.-led integrated naval force." Although London was attempting to help the U.S. government get through its temporary period of pressure, the drafters wrote that "we are already playing our full part," given the Armilla patrol's activities.[35]

The FCO offered similar arguments to its embassies that month: "[Y]ou can confirm that we appreciate the pressures on the American administration at present but believe we are already playing our full part in the protection of shipping."

The FCO wrote that it had provided to the United States—notably, Secretary of Defense Caspar W. Weinberger—a statement on the Armilla patrol to give the administration ammunition with which to "overcome the American public's almost total ignorance of what we are doing in the Gulf."[36]

The foreign secretary and defence minister in July 1987 jointly reflected similar concerns about possible blowback from a British refusal to deploy minesweepers in response to a hypothetical U.S. request. Acknowledging the U.S. Navy's limited MCM capability, they wrote that the United States was turning to NATO and other friends for help in the Gulf, and suggested that "refusal could fuel U.S. criticism that the Europeans are unwilling to pull their own weight."[37] However, they also judged that there were strong counterarguments, which are addressed in the next section.

. . . DESPITE RESERVATIONS ABOUT SENDING MCMVS TO THE GULF

Despite Britain's close naval cooperation with the U.S. Navy, however, its foreign and military policy throughout EARNEST WILL consistently also called for its warships to fall under national control, stay neutral, and pursue a de-escalatory policy in the Gulf while enabling a diplomatic solution to the war and protecting U.K.-flag shipping. For example, a draft negative response to a request from Chief of Naval Operations (CNO) Admiral William J. Crowe Jr. for the United Kingdom to deploy MCMVs to the Gulf stated that the "long term policy of keeping U.K. and U.S. policies in the Middle East separate[—]and both our governments have reaffirmed this separateness[—]is in our mutual regional interest."[38]

These broad objectives of British policy would prove problematic for the United States, which was interested in creating a joint naval command structure in the Gulf; sought additional, visible international support for EARNEST WILL; and had a lower threshold for engaging in contingency operations against Iran than did the United Kingdom. Several contentious issues arose from these different tactical approaches:

- Risks of escalation resulting from unpredictable Iranian challenges and potential preemptive or disproportionate U.S. responses
- How to maintain neutrality—a status both countries claimed regarding the war
- Size, number, type, and potential operational areas (OPAREAs) of ships the Royal Navy might send to the Gulf
- Frequency of and publicity accorded to joint training with the U.S. Navy in the Persian Gulf
- Naval command-and-control relationships in the Gulf

- Zones of responsibility
- U.K. responses to U.S. rules of engagement to facilitate a policy of "distress assistance" in 1988

Although subject to increasing U.S. pressure after the *Stark* and *Bridgeton* incidents, the United Kingdom's national leadership initially refused to send more ships to the Gulf. Ultimately it would be actions by Tehran—not pressure from Washington—that provided the catalyst for Thatcher to commit British MCMVs to the Persian Gulf in mid-August 1987.

Before that happened, changes in U.S. national-security policy and the war itself forced London to review repeatedly key elements of Britain's Gulf naval strategy between March and July 1987. Even in early 1987, London understood that Washington was considering a reflag venture with Kuwait City and was interested in forming a joint naval command in the Persian Gulf to protect shipping more efficiently.[39] Through that spring and early summer, American requests—albeit remaining informal—became more focused and urgent, particularly after rising tensions in the region made the issue of allies and burden sharing more salient in U.S. domestic debates over EARNEST WILL. American requests—perceived or delivered in 1987—included the following:

- The foreign minister's private secretary wrote on 25 March that the United States would want Britain and other countries to participate in joint naval operations in the Gulf as an outgrowth of the reflag effort. He summarized, "[T]hey remain keen on multilateral naval activity in almost any combination of participants."[40]
- The British ambassador in Washington reported on 29 May that the U.S. National Security Planning Group had confirmed recommendations for action regarding EARNEST WILL. Although Washington was not then asking London to increase the U.K. naval presence, it sought London's help in persuading other countries to make at least token contributions.[41]
- According to an FCO briefing, President Reagan wrote to Prime Minister Thatcher in early June to see whether the United Kingdom would find occasions to affirm publicly the importance of the region and highlight publicly what it was doing to further Western interests there. He also asked Britain to undertake "visible naval exercises with our ships"[42]—a request that the FCO interpreted as a proposal to increase the number of passing exercises in the Gulf and publicity accorded to them.[43] A message from the FCO to its posts on 8 June called for a guarded response, telling them that it had advised U.S. officials that the United Kingdom would consider issuing "further statements as requested and, perhaps, slightly enhanced passing exercises in the Gulf."[44]

- CNO Admiral Crowe wrote to ask the U.K. chief of defence staff on 25 July—the day after the *Bridgeton* mine strike—whether Britain would consider moving MCMVs closer to the Persian Gulf to reduce potential response time.[45]
- U.S. ambassador Charles H. Price II on 30 July met with the foreign secretary to request RN minesweeping in the Gulf.[46]
- Secretary of Defense Weinberger wrote to his U.K. counterpart on 31 July to request that Britain preposition mine-clearing assets in or near the Gulf.[47]
- On 31 July, Assistant Secretary of State for Near Eastern and South Asian Affairs Richard Murphy and Assistant Secretary of Defense for International Security Affairs Richard Armitage noted U.K. reluctance to deploy MCMVs in their discussions with the British ambassador in Washington. Armitage said that the Pentagon would want to have further discussions about how to achieve de-escalation in the Gulf without leaving Russia in a dominant position.[48]
- Frank C. Carlucci III, the assistant to the president for national security affairs (i.e., national security advisor), met with several senior U.K. officials, including the prime minister, on 3 August.[49] Acknowledging that London was reluctant to send additional ships to the Gulf, he told the cabinet secretary, Sir Robert T. Armstrong, that Washington was anxious for a tangible manifestation of U.S./U.K. collaboration in the Gulf and asked him for suggestions about how that might be achieved.[50]

London thoroughly debated these requests during the spring and identified potential ways to help Reagan through his administration's "domestic political difficulty" (in the words of an FCO overview) without compromising Britain's independent national-security strategy.[51] Just before the United States began lobbying for international support for freedom of navigation in the Gulf in June 1987, the FCO notified its posts that "ministers are travelling to Venice in a mood to help the Americans over a period of increased congressional and public scrutiny of their protection of shipping in the Gulf."[52] The FCO wrote then that the United Kingdom was "willing to help the United States while not compromising our basic posture of not provoking the Iranians, compromising our impartiality in the conflict, or being sucked into an unpredictable conflict through integrated operations."[53] In talking points prepared for a bilateral meeting with Secretary of State George P. Shultz in the same conference, the FCO wrote that the "U.K. will do what we can to help weather Congressional scrutiny in the aftermath of appalling USS *Stark* incident."[54]

Given this context, the declassified documents collectively offer a complex set of reasons for initially demurring to repeated U.S. requests for the deployment of additional U.K. forces to the Gulf. A list of London's "cons" about EARNEST WILL

and deploying MCMVs to the Gulf probably would include the following arguments, judging from the raw reporting.

Earnest Will Was a Flawed, Escalatory Operation

Talking points prepared for Thatcher on 15 July 1987 warned that the reflag decision carried risks of superpower competition and a counterproductive confrontation with Iran.[55] The foreign secretary and defence minister jointly agreed on 27 July that it was U.S. action that had exacerbated the crisis by reflagging and convoying tankers. Supporting such an operation raised the risk of being drawn "further into involvement with U.S. policy, and into an operational crisis in the Gulf, which would in turn increase the risk to British vessels."[56] They subsequently wrote on 29 July that U.K. policy had been to avoid joint operations with the Americans in the Gulf because "of the likelihood that they would lead to our being included in a U.S. confrontation over which we had no control. Once initiated, such a confrontation could last a very long time." By joining in, the United Kingdom "might actually increase the risk to British shipping."[57]

The two leaders concluded that Britain would have to turn down the U.S. request for MCMVs despite any strains that caused on the alliance. They acknowledged that it would not be "an easy message to present to the Americans."[58] And yet, only thirteen days later, even after they had submitted a strongly worded memo against deploying MCMVs to the Gulf, the prime minister would overrule them.

America Might Lack the Commitment to Sustain Prolonged Operations against Iran

In talking points for briefing the prime minister in March 1987, the FCO warned that joining in the U.S. operation had potential downsides, including a potential replay of the Multinational Force in Lebanon experience following the October 1983 Beirut Marine barracks bombing. "We should not encourage a U.S./Iran confrontation in Gulf from which U.S. might in due course need to withdraw, leaving Arab friends worse off than before."[59] Younger and Howe wrote in July 1987 that "the Americans were unwise to rush into their policy of protecting Kuwait tankers without proper consideration how they could sustain their commitment; their credibility is on the line."[60] Summarizing U.K. thinking on 30 July, the FCO advised its embassy in Washington as follows: "We remain doubtful about assuming commitments which cannot be sustained."[61] In recapping a meeting in October 1987 with Edward W. Gnehm Jr., the Deputy Assistant Secretary of Defense for Near East and South Asia, the FCO notified its posts that, although Secretary Weinberger's trip to the Gulf had confirmed Gulf-state support for U.S. actions, the Arabs continued to doubt longer-term U.S. resolve.[62]

Perhaps aware of such doubts, when National Security Advisor Carlucci met with the prime minister on 3 August 1987 he attempted to reassure London of

Washington's determination to execute EARNEST WILL and to protect U.S. interests. Speaking shortly after the *Bridgeton* mining, he opined that if there were further incidents directly traceable to Iran, Reagan would face considerable pressure to retaliate. Carlucci judged that there was a risk that Iran could conclude erroneously that it could divide opinion in the United States. Given this perception, he averred that if there was any hostile action public opinion would rally behind the president; it would not be another Lebanon.[63]

Independence in Foreign Policy and Naval Operations Buttressed London's Image as a Neutral

Throughout EARNEST WILL, the United Kingdom remained adamant that the Royal Navy would not conduct integrated operations under U.S. control, although it allowed informal coordination among local naval commanders. When British officials met with Assistant Secretary of State Murphy on 5 June 1987, they "made it clear our non-provocative and independent policy continued and we had serious reservations about any more integrated operations."[64]

The prime minister wrote in July 1987 that "there are formidable practical as well as political problems in the way of a multinational force. . . . [S]uch a force might in practice have a higher profile than the present arrangements."[65] She then directed the cabinet to prepare for discussions about bilateral coordination in the Gulf while making it clear that the RN presence would not include joint or integrated operations.[66]

Even when Defence Minister Younger called Defense Secretary Weinberger in mid-August 1987 to announce that London would deploy MCMVs to the Gulf, he reminded Weinberger that "Armilla's role and AOR [area of responsibility] would remain unchanged."[67] Talking points prepared for the defence minister's use noted that Armilla would not go into the northern Gulf because "the risks of integration with the United States were too high to contemplate."[68]

When EARNEST WILL was well under way by March 1988, R. Rand "Randy" Beers, policy coordinator in State's Political-Military Affairs Bureau, told officials in the MOD and FCO that the United States was considering extending protection for neutral shipping in the Gulf, an effort in which allies might be asked to provide more ships and integrate more closely with the U.S. Navy, or at least integrate more among themselves. The British responded that there was no likelihood the United Kingdom would alter its position on integration with the U.S. Navy. If the Royal Navy sent more ships to the Gulf, they would support U.K.-flagged/owned ships only.[69]

Publicizing RN Cooperation Would Undermine London's Low-Profile Strategy

Consequently, Reagan's request that Britain highlight its actions to promote Western interests and undertake more-visible operations with the United States in the Gulf was problematic, although talking points that the FCO prepared for a

meeting with Secretary of State Shultz concluded that "we can meet both of Reagan's requests presentationally without giving much of substance."[70] U.K. officials had written earlier that the U.S. public had "almost total ignorance" of U.K. operations in the Gulf and that more publicity might reduce congressional pressure for further burden sharing.[71] However, the notes for the Shultz meeting continued, "Publicity for exercises would look like participation in a Gulf war and will need very careful handling."[72]

Earnest Will Might Lead to Preemptive or Disproportionate U.S. Military Operations

Monitoring U.S. press and official activity, London's staffers watched for signs of escalatory American military activity, such as a preemptive attack on the Silkworm ASCMs that had appeared in the Gulf in 1987.[73] Minutes prepared for a briefing of the prime minister in March 1987 warned that "if naval discussions suggest U.S. seriously thinking of contriving to attack Silkworm sites we may need to express our doubts in Washington at high political level."[74] The foreign secretary then was willing to consider limited coordination of RN activity with the United States, on the strict condition that the agreed aim was to deter Iran and "not to contrive an excuse for, say, striking the Silkworm missiles."[75] Despite such willingness to cooperate, the FCO characterized the U.S. mood as being "aggressively anti-Iran" at the end of July 1987.[76]

British officials repeatedly approached their American counterparts to assess the risks of a preemptive U.S. attack on the Silkworms, a course of action that by June 1987 was not being considered seriously in Washington, according to their interlocutors.[77] In preparing Prime Minister Thatcher for a visit to the United States in July, FCO officials raised the risk of a confrontation with Iran and wrote that they hoped the United States would be as "non-provocative as possible."[78] When Thatcher met with Reagan on 17 July, she told him it was important not to escalate the conflict. Reagan agreed and said that the United States would attack only in self-defense against an Iranian attack.[79]

These agreements did not reassure the FCO after further Iranian provocations. Following Iran's Silkworm attack on the reflagged Kuwaiti tanker *Sea Isle City* on 16 October 1987 and the U.S. retaliatory attack on two Iranian oil platforms in the Persian Gulf three days later, the FCO prepared talking points for use with the prime minister; they warned of a "continuing need to counsel restraint and proportionality in response to Americans—wise counsels may not always prevail."[80]

In the subsequent cabinet meeting, the foreign secretary opined that the Gulf had become tenser than ever before. He commented that it might become increasingly difficult for the United States to respond to Iranian actions in ways that were both "constrained and effective."[81] Such doubts led Britain to seek early

notifications of U.S. contingency operations in the Gulf, a consideration repeatedly accorded to the United Kingdom.[82]

Such concerns, repeated British requests, and the Royal Navy's presence in the Persian Gulf may have contributed to Washington's willingness to share with London the broad outlines of U.S. military planning and to warn London and U.K. forces in the Gulf of impending military operations. U.S. officials assured their counterparts that the United States intended to provide such warning, and the British seemed satisfied that the system was working.[83] For example, as the United States was planning Operation PRAYING MANTIS to retaliate for the mining of USS *Samuel B. Roberts* (FFG 58) on 14 April 1988, the British embassy in Washington reported that "U.S. officials have assured us that we will be informed in advance of any operation, as on previous occasions."[84] CNO Crowe telephoned Chief of the Defence Staff Fieldhouse shortly before the operation started.[85] General Colin L. Powell, the national security advisor, the next day updated Thatcher's personal secretary on U.S. thinking regarding next military steps.[86]

Minesweeping Was Neither Viable nor Currently Necessary

In late July 1987, Britain's foreign and defence ministers wrote that currently there was no mine threat in the Armilla OPAREA, although they acknowledged that could change with little warning. Moreover, in a long staff study they made a case against minesweeping, arguing that MCMVs could not clear a large area, would be confined to daylight operations at speeds not greater than eight knots, and would slow down merchant ships significantly if they tried to sweep ahead of a convoy. Additionally, Iran could reseed minefields easily. Destroying Iran's mine warfare infrastructure would expand the conflict greatly.[87]

London preferred to use diplomacy and GCC MCM assets over deploying U.K. MCMVs, although the U.K. strategy for turning down the U.S. request was to offer technical naval counterarguments, in what its officials acknowledged would be a "difficult" process of declining the U.S. requests.[88] In answering Admiral Crowe's request for MCMVs, Foreign Secretary Howe in July 1987 recommended that the chief of defence staff should "quote technical military arguments demonstrating that it was not militarily sensible to use minesweepers, that they were too far away to do the job properly, and that a large number would be required, etc."[89]

The ministers argued in July 1987 against even repositioning minesweepers to staging areas closer to the Gulf, as Admiral Crowe had requested. They characterized the measure as a "temporizing response" that would "soon become public and create an expectation that we would join the U.S. operation." Staging MCMVs also would have costs to the United Kingdom: "It would then be virtually impossible not to proceed without giving the impression that our nerve had failed."[90]

Diplomacy Should Not Be Undermined by Naval Incidents

Throughout EARNEST WILL, Washington and London focused foremost on ending the Iran-Iraq War by reaching a truce that, through negotiations, might yield a lasting peace. They reasoned that a cessation in ship attacks might support the broader initiative.

Seeking to create diplomatic breathing room to allow time for a cease-fire in ship attacks to occur in July 1987, Prime Minister Thatcher told ministers drafting a response to the U.S. request for MCMVs that the West should avoid raising the profile of its military forces in the Gulf while a moratorium on ship attacks held. Her private secretary told National Security Advisor Carlucci on 1 August that the U.K. government "took the view that it was better not to increase the profile of the Western military presence at this juncture while there was a chance of progress on the diplomatic front towards de-escalating tension in the Gulf."[91]

THATCHER REVERSES HER MCMV DECISION

Prime Minister Thatcher was attuned to threat conditions in the Persian Gulf, maintenance of good relations with the United States on issues such as burden sharing, and the importance of apparent cohesion in the Western alliance to enhance its diplomatic credibility and regional deterrence. These factors influenced her to reconsider in early August 1987 her refusal to provide MCMVs to the Gulf.

In part, she was struck by the rapidly deteriorating regional security situation in midsummer 1987. Thousands of Iranian pilgrims rioted in Mecca on 31 July 1987, with hundreds of people being killed.[92] Attacks against the Saudi, Kuwaiti, and French embassies in Tehran followed on 1 August and were accompanied by official Iranian calls for the overthrow of the Saudi government.[93]

By 4 August, the prime minister concluded that Britain's posture on Persian Gulf strategy needed to be "looked at afresh," and related taskers began to flow to the bureaucracy.[94] Iran's mining of *Texaco Caribbean* in the Gulf of Oman off Fujairah, United Arab Emirates, on 10 August 1987 provided the immediate catalyst for her decision the next day to send four MCMVs and a support ship to the Gulf.[95]

Meeting with Carlucci on 3 August 1987, Thatcher expressed concern about developments during the past few days and the prospect that Gulf tensions would continue to escalate in the form of maritime guerrilla warfare and possibly direct attacks on U.S. ships. The chance for diplomacy to reduce tensions had diminished. She concluded that the main requirement was action by every means at the UN and elsewhere to isolate Iran.[96]

Thatcher told the cabinet on 4 August 1987 that there had been a qualitative change in the situation in the Persian Gulf that mandated a new look at the United

Kingdom's Gulf policy. She judged that it was unrealistic to think any longer in terms of a window of opportunity to de-escalate by diplomatic measures. Rather, Iran was intent on terrorist actions against the United States and GCC and might engage in further mining or other attacks. Britain's main priorities must be to take further diplomatic steps to isolate Iran, maintain GCC morale, and demonstrate the West's unity of purpose. The prime minister also was concerned that Britain's well-publicized decision not to send MCMVs to the Gulf—or even to preposition them—had conveyed the wrong political signal. "Our failure to meet a request for help from our closest ally had given an appearance of division and disunity among the Western governments and had probably worried the Arab states of the gulf. We should not think just in terms of British ships but acknowledge a wider duty to help uphold freedom of navigation."[97]

Her taskers to the cabinet had diplomatic and military dimensions. Diplomatically, the United Kingdom was to press hard and visibly for a further UNSC resolution imposing an arms embargo against Iran for not following UNSCR 598, and Britain also should promote a resolution condemning the mining in the Gulf and upholding freedom of navigation. London would urge Moscow to put all possible pressure on Tehran to desist from mining and garner Soviet support for the arms embargo against Iran envisioned in the follow-on resolution to UNSCR 598.[98]

On the military side, the government would consider prepositioning MCMVs to possible holding points, including Gibraltar, Cyprus, Port Said, Djibouti, and Muscat. In the event they deployed, London would seek the "fullest consultation" with Washington about strategy in the Gulf. Early consideration would be given to other assets the United Kingdom might send to the region. Britain would prepare for further arms requests from the Arab countries in the region.[99]

By 7 August 1987, Thatcher continued to weigh in to soften the United Kingdom's initial rejection by amending the British defence minister's draft response to Secretary of Defense Weinberger's 31 July request for forward deployment of MCMVs. She wanted to emphasize that Britain had "certainly not" ruled out eventually deploying its MCMVs to the Gulf. Her private secretary summarized her guidance for the revised letter as follows: "We are looking afresh at all our contingency arrangements, so that we would be able to move the minesweepers as quickly as possible. We are looking at the situation very closely, on a day to day basis, and looking to see how we can help from the U.S. viewpoint, as well as our own."[100]

On 11 August, Thatcher decided to deploy immediately four Hunt-class MCMVs and a support ship from the United Kingdom to the Persian Gulf, where they arrived in mid-September.[101] The order reflected a British assessment that there was a heightened risk to the Armilla patrol following the discovery of mines in the southern end of and outside the Gulf during the preceding twenty-four

hours.[102] The FCO prepared an overview that characterized the mining in the Gulf of Oman as a "direct threat to British ships" that led London to "send minesweepers in support of British national interests."[103]

Additionally, two maritime patrol aircraft were to deploy to Maṣīrah, Oman, by 14 August as a public demonstration of commitment.[104] London would send diplomatic notes requesting port access and logistics for the naval deployers to the Gulf.[105] The United Kingdom also prepared to encourage Western European Union (WEU) participation by sending messages to the governments of France, Italy, Belgium, and the Netherlands notifying them of the MCMV deployment, and adding that these countries would be assumed to be considering following suit.[106]

BILATERAL COOPERATION FROM SEPTEMBER 1987 TO JULY 1988

The United Kingdom cooperated with the United States during EARNEST WILL by providing support in the UN and elsewhere; serving as a gateway to WEU countries—notably, Belgium and the Netherlands—for mine countermeasures initiatives, particularly in the Armilla OPAREA in the southern Gulf and Strait of Hormuz; recovering mines and continuing the patrol's hectic mission of accompanying merchant ships; and pursuing diplomacy that helped the United States, particularly after Operation PRAYING MANTIS in April 1988 and in the aftermath of the Iran Air 655 Airbus shootdown in July 1988.

Although the United States did not then achieve the formal joint naval command structure it had proposed, by October 1987 Washington was "content with the pragmatic coordination of minesweeping," according to U.K. diplomatic reporting.[107] British MCMVs contributed directly by clearing five mines off Fujairah and four off Qatar by the end of November 1987, according to John Roberts's history of the Royal Navy.[108]

The British also encouraged the Dutch and Belgian navies, with whom the Royal Navy had operated in a NATO context, to participate in the Gulf MCM effort. The Dutch in September 1987 committed two minehunters, while the Belgians sent two minesweepers and a support ship, which arrived in the Gulf by late fall.[109] As of November 1987, the Royal Navy was liaising closely with both navies in the Gulf, but their operations were not yet integrated.[110] The three navies improved cooperation by February 1988 as the United Kingdom prepared to return one of its four MCMVs to home waters.[111] The FCO reported by April 1988 that "cooperation with the Dutch and Belgians (under a WEU umbrella) has worked well." London also warned Washington that further U.S. pressure on its two allies to keep ships in the Gulf might be counterproductive.[112]

The Royal Navy saw the opportunity to showcase the MCM capabilities of the three navies in the southern Persian Gulf following the *Roberts* mine strike on 14

April 1988. The U.K. MOD directed its senior naval officer in the Gulf to encourage the other two navies to join British ships in clearing the minefield near the *Roberts* strike, as a good opportunity to demonstrate the usefulness of trilateral cooperation. However, the MOD urged that the Royal Navy be seen as taking the initiative. In its guidance to RN senior commanders, the ministry added that it wished to "avoid the suggestion that we are responding to a U.S. request or that we are/will be under U.S. control or guidance."[113] In discussing the ongoing trilateral MCM operations on 21 April, cabinet talking points commented that the fortunate timing of the *Roberts* incident might persuade the Dutch and Belgians that their presence in the Persian Gulf was "useful and should not be terminated."[114] By June 1988, the three countries had established a joint command consisting of a flagship, supply ship, and five minehunters under U.K. control.[115]

In the aftermath of PRAYING MANTIS, Washington wanted to pursue further initiatives in the UN and to improve coordination of naval operations in the theater. Even as Secretary of State Shultz notified the United Kingdom of the operation on 18 April, he said that Iran's actions "underscore the urgency of strong international measures in the UN to pass a followon resolution to UNSCR 598."[116] On 22 April, Reagan wrote to Thatcher proposing a new, intensive diplomatic effort in the UN to end the conflict, improve coordination among Western naval forces in the Gulf, and enhance surveillance there to prevent mining, according to U.K. diplomatic reporting. The FCO advised its posts that Defence Minister Younger's discussions with now–Secretary of Defense Carlucci on 27 April 1988 had reached no firm conclusions, but at least the principals had agreed to explore greater coordination of MCM activity. Local commanders in the Gulf were to meet aboard USS *Trenton* (LPD 14) on 1 May to discuss the matter.[117]

However, the cabinet remained wary of expanding the Royal Navy's role and advised a cautious response to Reagan's letter. Concerned about the earlier U.S. proposal for a review of the coordination of forces in the Gulf, the foreign secretary said in a late April 1988 cabinet meeting that the United Kingdom must be careful not to allow "responsibilities to run ahead of the resources available."[118]

The president's letter also may have been prompted by the U.S. decision by 29 April 1988 to provide distress assistance to additional neutral merchant ships in the Persian Gulf.[119] The Cabinet Office assessment on 3 May offered a range of complaints about the policy, noting that London long had urged Washington to be cautious about extending the rules of engagement. The new policy was announced without proper consultation with the United Kingdom. It could lead to pressure on Britain and other European nations to follow suit. The Royal Navy lacked adequate resources to support it, and the initiative might interfere with enhanced U.K. minesweeping coordination. Most seriously, a systematic policy of distress assistance was likely to lower the threshold for U.S.-Iranian clashes and

increase risks of Iranian attacks on shipping and offshore installations because of a narrowing of military options. Although the FCO wrote that it "must give general support [to] U.S. policy," it began revising its response to Reagan's letter, concentrating its warnings particularly on the dubious European reaction, the policy's risk of lowering the threshold of conflict, and London's concern that it had not been consulted adequately on this initiative.[120]

Despite its misgivings, in a memo dated 24 May 1988 London determined that British shippers would be permitted to accept distress assistance on the condition that the master of the ship requested help in each case.[121] Given its residual concern about perceived U.S. escalatory tendencies, the cabinet noted that the United Kingdom had accepted the offer, but hinted clearly that London saw distress assistance primarily as a humanitarian initiative and held that its use should not contravene the use of minimum force only. The note continued by observing that several European partners harbored doubts about U.S. intentions in offering distress assistance, which they considered provocative to Iran. Ultimately, in June 1988, the MOD provided British shippers with guidance on when to avail themselves of distress assistance, principally reminding them that such use should be confined to situations in which their ships were distant from the Armilla patrol.[122]

The United Kingdom's public messaging and private diplomacy also endorsed U.S. operations during PRAYING MANTIS. U.K. officials proved to be unsympathetic audiences when Iranian diplomats approached them to protest apparent British endorsement of the operation in April 1988. For example, the FCO reported that on 25 April 1988 M. Akhondzadeh Basti, the Iranian chargé in London, told U.K. diplomats that the attacks had undermined Iranian attempts to reduce tension. His British interlocutor countered that it was instead Iranian provocations that had raised tensions, and that the United Kingdom applauded the U.S. action. He continued that Iran should expect a strong reaction to laying mines in international waters and dismissed as ridiculous Basti's claim that the Americans themselves had laid mines recently. Referring to the chargé's warning that U.K. support would threaten the Western world's economy, he expressed the hope that this was not a threat.[123]

London also took diplomatic measures to blunt a potential Iranian-sponsored UN resolution against U.S. (and potentially all foreign) naval presence in the Gulf after USS *Vincennes* (CG 49) shot down an Iranian Airbus on 3 July 1988. That day, London issued a public statement—which Thatcher and Howe repeated—regretting the incident but noting that it "underlines the urgent need for early end to the Iran/Iraq conflict including an end to all attacks on shipping." Cabinet discussions on 7 July 1988 revealed that Iran had requested a full meeting of the Security Council and was canvassing its members regarding a draft resolution condemning the United States and demanding withdrawal of foreign forces from

the Persian Gulf. Public comment by British officials had stressed the right of self-defense for U.S. naval forces in the Persian Gulf under article 51 of the UN Charter, a policy the FCO urged that Britain continue, given the Armilla patrol's activities in the Gulf.[124]

Although the United Kingdom had its own reasons for supporting a naval presence in the Gulf, its postshootdown diplomacy might have been reinforced by a note from President Reagan to Thatcher on 11 July 1988. The missive argued that the UN should not be used as a forum "to undermine our mutual interests in the Gulf and the Western naval presence there, or as a means to undermine UNSCR 598 as the basic framework for a settlement." While inviting Thatcher's advice and support, he shared a diplomatic strategy in which the United States would oppose a resolution that would distract from UNSCR 598. Rather, the president judged that Security Council unanimity might be preserved better by a statement from the Security Council president that regretted the accident; called for an investigation; and, most importantly, urged the earliest implementation of resolution 598.[125]

Preparing for the Security Council's meeting on 14 July 1988 to discuss the shootdown, the FCO advised its posts that "we are not prepared to let Iran use the Council selectively. It has flouted the authority of the UN over UNSCR 598 and cannot now expect the Council to address the Airbus incident in isolation." London intended to keep UNSCR 598 at the discussion's center and to refer to the principles of freedom of navigation and self-defense.[126] Following the debate, the UN on 20 July 1988 passed UNSCR 616, which expressed "deep distress" over the U.S. attack and "profound regret" for the loss of human lives, but also stressed the need to end the war.[127]

THE CHALLENGES OF COOPERATION

The United States was fortunate to have such a good partner as the United Kingdom during the prolonged and risky tanker-escort regime. Although other countries reluctantly deployed ships to the region, none were so supportive—or so critical to achieving our shared diplomatic objectives for ending the Iran-Iraq War—as our partners in the United Kingdom. The Royal Navy worked closely with its U.S. counterpart despite national-level reservations and under trying circumstances that foreshadowed those encountered in the more complex coalition operations that followed.

A few observations about Anglo-American cooperation during Earnest Will are discussed below.

- The U.S. diplomatic record in the 1980s was not persuasive to all U.K. officials, who raised doubts about it in internal memorandums and even in discussions with the United States. Washington's allies in Europe and the

Gulf were sensitive to issues of U.S. reliability following American arms sales to Iran as part of Iran-Contra and the country's withdrawal of forces from Lebanon in 1984 after committing them to the Multinational Force there, alongside the United Kingdom, France, and Italy. The model that American policy makers offered—international cooperation to clear mines laid in the Red Sea in mid-1984—was unconvincing to the British officials, who pointed out that the 1984 effort was a poor analogy because countries in the Persian Gulf either distrusted Western presence and commitment or were active enemies, unlike those along the Red Sea.[128]

- Under domestic pressure to create an international coalition for EARNEST WILL, U.S. officials at times appeared to be tone-deaf and insensitive to the dynamics of London's decision-making calculus. Washington's demands probably hardened London's attitude and its responses to the United States; its naval strategy in the Gulf did not change, for example, until the cabinet concluded that the threat to *U.K. interests*—notably, the safety of the Armilla patrol and U.K. shipping—had increased rapidly.[129] Repeatedly pressing an ally on the same issue is not necessarily effective, no matter how good the working relationship.
- The United States might have used a more persuasive, low-key approach in asking for the minesweeper deployments. When Carlucci met with the cabinet secretary on 3 August 1987, the national security advisor asked whether it would have been advantageous for the United States to take "informal soundings" of the British government before requesting the MCMV deployment to the Gulf. Sir Robert Armstrong responded that such informal communications certainly would have been helpful, if time permitted.[130]
- In meeting with other British officials the same day, Carlucci told them that he thought the U.S. request for minesweepers—of which he and Reagan had been unaware—had not been handled very skillfully. Carlucci asked the prime minister whether a request for British naval support from the GCC rather than the United States would have been preferable. Thatcher replied that there were advantages in an appeal from the GCC for international cooperation to preserve freedom of navigation, but she doubted the GCC countries collectively would request minesweeping. Another possibility would have been to call for international action to remove mines, but she opined that that step would have been an invitation to the Russians to get involved.[131]
- A low-key discussion about potential U.K. minesweeper deployments earlier and at a much higher level might have been more effective. Instead,

President Reagan started with a relatively undemanding request for additional bilateral exercises and more publicity about the U.K. naval commitment to the region, but then as regional tensions rose subordinates requested more. As leaks occurred, both the U.S. request for MCMVs and the U.K. rebuff received press coverage—to the detriment of both parties.

- British officials were aware of U.S. domestic politics and privy to internal U.S. debates on EARNEST WILL.[132] The sophistication of British policy makers probably contributed to their skepticism about some U.S. argumentation, since the United Kingdom apparently perceived American domestic politics to be as much a driver of U.S. behavior as an increasingly threatening Iran.
- Both Washington and London encouraged cooperation among local commanders in the Gulf. This allowed de facto coordination, even though at the time the United States never achieved its original objective of establishing a formal multinational naval command under its control. In other words, there were theater-level work-arounds within national constraints.
- Focused as Washington was on the maritime domain of war in a relatively small arena against a weak adversary, it probably would have found facilitating international cooperation during EARNEST WILL to be a relatively simple effort compared with planning for an intense, multidomain conflict against a more robust enemy in the future—conditions that would be found in many scenarios envisioned, and later encountered, by the United States and its allies.

Britain's collaboration with the United States demonstrated the benefits of having sophisticated, capable partners, but it also reveals the challenges of working in coalitions, even under the best conditions. To get the most out of such alliances, U.S. policy makers need to develop as sophisticated an understanding of their allies as they try to develop of their adversaries.

NOTES

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2. U.K. embassy Washington to FCO, message, "US/Gulf," 27 July 1987, Defence Ministry: Private Office: Registered Files, box DEFE 13/2390, UKNA.

3. The British sources cited here are mostly hard-copy documents stored in the National Archives on the outskirts of London. See its website, www.nationalarchives.gov.uk/, for search engines and descriptions of its collections.

4. For context, see David Crist, *The Twilight War: The Secret History of America's Thirty-Year Conflict with Iran* (New York: Penguin, 2012), and Harold L. Wise, *Inside the Danger Zone: The U.S. Military in the Persian Gulf, 1987–1988* (Annapolis, MD: Naval Institute Press, 2007). Then–Chairman of the Joint Chiefs of Staff Adm. William J. Crowe Jr. and Secretary of Defense Caspar W. Weinberger devote lengthy sections in their memoirs to the operation. See Crowe, *The Line of Fire: From Washington to the Gulf, the Politics and Battles of the New Military* (New York: Simon & Schuster, 1993), pp. 186–211, and Weinberger, *Fighting for Peace: Seven Critical Years in the Pentagon* (New York: Warner Books, 1990), pp. 387–428. A recent summary of declassified information on the operation may be found in Richard Mobley, "Fighting Iran: Intelligence Support during Operation Earnest Will, 1987–88," *Studies in Intelligence* 60, no. 3 (September 2016). William Luti's work provides context for factors driving European responses to Earnest Will. See William J. Luti, "Ends versus Means: A Critical Analysis of the Persian Gulf Crisis (1987–1988)" (PhD dissertation, Naval Postgraduate School, 1990), available at core.ac.uk/.

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BOOK REVIEWS

WAR WITHIN AND WITHOUT

Scratch One Flattop: The First Carrier Air Campaign and the Battle of the Coral Sea, by Robert C. Stern. Bloomington: Indiana Univ. Press, 2019. 328 pages. $44.99.

The Battle of the Coral Sea often gets overlooked in history, taking place as it did a month before the much more dramatic Battle of Midway and its exceptionally lopsided outcome. Coral Sea, though, was the first battle between aircraft carriers. It also was a much more even contest than Midway, with both the Americans and Japanese losing one carrier. Robert C. Stern sets out to correct this historical imbalance with *Scratch One Flattop.* His book is an impressive undertaking and certainly will stand out as one of the more important books on the Pacific naval campaigns for a decade or two—or maybe even three.

Stern brings a good deal of experience to the task, having written numerous books on World War II naval history in both the Atlantic and the Pacific. More importantly, he develops the Japanese side of this engagement, using the official Japanese history, the 102-volume Senshi Sōsho (War History Series). Such books often are more a compilation of military documents than an analytical or narrative account; nonetheless, Stern is able to develop the Japanese side of this engagement relatively well.

As a result, Stern does a good job of showing the interaction between the two opposing task forces. What one did affected what the other could do. He also understands and shows, without confusing his readers, that both the Americans and the Japanese were operating with incomplete and often inaccurate information. Other factors got in the way as well, including sea conditions and other weather-related aspects.

The coverage ranges from the tactical to the strategic. The stories of individual pilots on both sides often are quite compelling—sometimes better than anything Hollywood could create. Major themes include how technology often failed the Americans and how the Japanese failed to anticipate the losses of personnel that are inevitable in combat or to plan for their replacement.

Stern rejects the judgment of Samuel Eliot Morison that Rear Admiral Frank Jack Fletcher lost the battle at the tactical level. Fletcher, Stern argues, had more-achievable orders than his Japanese counterparts, Vice Admiral Takeo Takagi and Rear Admiral Chūichi Hara. Stern sees Fletcher as cautious, inconsistent,

and unsure of himself—but also lucky, in that he made fewer mistakes than Takagi and Hara. More importantly, the Japanese needed to maintain their momentum, and that required an outright victory. Much of Japan's strategic failure was the fault of Admiral Isoroku Yamamoto, the fleet commander, who did not give his men in the field enough carriers to overwhelm the Americans at a time when it was still possible for the Japanese to do so; instead, it was an even fight. "It had been his best (and would prove to be his last) chance to achieve an easy strategic victory over the Americans, and he simply overlooked it. Simply stated, this was a battle the Japanese could have and should have won, but chose not to; the opportunity would not come again" (p. 282).

The book is not unblemished. For example, Stern seems overly fond of military acronyms. However, most of its faults lie with the publisher rather than the author. At forty-five dollars, *Scratch One Flattop* seems to be priced too high. Moreover, the quality of maps, photos, and diagrams leaves something to be desired. Still, all told, Stern offers an intriguing and valuable read that will be of interest and use to students of World War II at all levels.

NICHOLAS EVAN SARANTAKES

Artificial Intelligence and Global Security: Future Trends, Threats and Considerations, ed. Yvonne R. Masakowski. Bingley, U.K.: Emerald Publishing, 2020. 187 pages. $99.99.

Grappling with the technological, policy, planning, and ethical issues attendant to the emergence of artificial intelligence (AI) is a daunting task and, given the complex nature of this interdisciplinary science, a challenge that can boggle the mind (pun intended). *Artificial Intelligence and Global Security* is a trim volume of interrelated chapters, skillfully edited by Dr. Yvonne Masakowski, that provides a timely primer on the moral, ethical, and policy implications associated with AI. While ostensibly a book about technology, this is not a technological book. Rather, Masakowski and the contributing authors serve up thought-provoking and relevant discussions that will challenge the reader's notions about AI when juxtaposed against theories of just war doctrine, individual and societal morality, and the ethical constraints and opportunities within the context of the global security environment.

With her education and experience in psychology and philosophy, and her recent professorship in the College of Leadership and Ethics at the Naval War College, Masakowski is uniquely suited as editor of this volume. She has assembled a clowder of established scholars who are predominantly trained in ethics and philosophy and has interspersed a brace of programmatic and technical experts. Together, these chapter authors examine a broad swath of philosophical and ethical issues, including in individual chapters on the ethical dilemmas of AI and privacy, AI and moral reasoning, and the particular challenges of AI and space warfare, as well as several discussions of future considerations for AI from both ethical and policy perspectives.

Among the book's most engaging chapters, William Casebeer's discusses the building of an artificial conscience and the prospects for a morally

autonomous AI. Currently a senior researcher in human-machine systems in the private sector, Casebeer's central question is whether AI can be used to develop systems capable of reasoning through moral issues. He makes an argument for why we need to build this artificial conscience soon, given that AI already is being used in multiple domains, then goes on to present a rough blueprint for how to build one. He describes how a machine with an ethically grounded and morally driven conscience may be coming to a battlefield near you soon—no longer bearing the tincture of science fiction.

The fulcrum chapter of the book, authored by John Shook, Tibor Solymosi, and James Giordano on the ethical constraints and contexts of AI use in national security and warfare, is likely to be of keen interest to readers of the *Naval War College Review.* This chapter describes a continuum from "soft" to "hard" AI based on structural and functional complexity that is useful in determining attribution of actions—an especially critical consideration for the use of AI in warfare. The authors contend that with *soft* AI, the human fingerprint is evident and attribution is readily detected, but as AI moves along the continuum toward *harder* systems that are autonomous and capable of developing intelligence beyond initial programming, attribution will become far more problematic. Here, a HAL 9000–like machine developing actions and outcomes not intended by human programmers and resistant to "exogenous attempts at constraint, imposition, and control" is the elixir of science fiction. The value of this chapter is in understanding the essential characteristics of AI across the continuum and in determining the bespoke development, application, and constraints of all forms of AI.

The penultimate chapter of the book, by Gina Granados Palmer, an interdisciplinary scholar, harvests the detailed work in the preceding chapters and develops a comprehensive summary of the book's themes. Here Palmer provides a thoughtful assessment of AI's overall security landscape and develops four key considerations relating to (1) the evolution of near-Turing-test ethics in the human-machine team; (2) the creation of short-, intermediate-, and long-term strategies for ethical AI development and use; (3) the development of dual-use ethics in relation to dual-use AI; and (4) the urgent need for strong ethical foundations to underpin AI technological advances.

The volume concludes with a forward-looking epilogue by Dr. James Canton, a well-known futurist, who highlights the opportunities as well as the dangers of AI in the global security environment. This final chapter, like the future of AI itself, is simultaneously hopeful and frightening. As Canton points out, "we cannot fully fathom" the full potential—both bright and dangerous—of an AI-infused future. He underscores that security at both the local and global levels cannot be conceptualized without fully envisioning how AI will evolve—a prophetic and prescriptive admonition.

Artificial Intelligence and Global Security is not a compendium of information on current AI technology and its essential tools; given the rapidly changing nature of AI, the usefulness of such a book would be fleeting and ephemeral. Rather, here readers will discover a transcendent and informed exploration of the

ethical, moral, individual, societal, and policy issues surrounding AI. It is the book's discussion of the enduring nature of these issues that will be of value and greatest significance to the national-security community.

THOMAS CULORA

Six Victories: North Africa, Malta, and the Mediterranean Convoy War, November 1941–March 1942, by Vincent P. O'Hara. Annapolis, MD: Naval Institute Press, 2019. 322 pages. $34.95.

In his latest book, Vincent P. O'Hara adds to his previous works on the Mediterranean during World War II by analyzing the period between November 1941 and March 1942. He considers six decisive actions that changed the tide of the naval war in the Middle Sea, three of which went in favor of the British (the actions of Force K, the battle of Cape Bon, and the first battle of Sirte [Sidra]) and three in favor of the Italians (Alexandria, the loss of Force K, and second Sirte).

The author's detailed narrative reminds the reader that the Mediterranean war was one of naval attrition around the sea-lanes crossing the theater.

An essential question in *Six Victories* is the influence of intelligence on naval operations. According to O'Hara, while ULTRA provided critical data on many occasions, information often was untimely and was offset by Italian counterintelligence. O'Hara's thesis is not entirely new; Italy's leading scholar working on ULTRA, Alberto Santoni, reached similar conclusions in his 1981 study *Il vero traditore,* which is not among the author's references. O'Hara claims that the higher ratio of Axis attacks against British convoys demonstrates that ULTRA did not affect the operations significantly. The argument is captious, since possessing intelligence does not mean necessarily that it is possible for one to attack; that possibility was reduced severely for Britain in the latter three of the "six victories." However, when the British had the means, as during the operations of Force K, ULTRA allowed them to maximize the effectiveness of their limited forces, which were numerically inferior to the enemy's and had fewer bases available to them in the central Mediterranean. Finally, the British ratio of success for attacked convoys was better than that of the Axis.

Six Victories also puts great emphasis on the consequences of the three Italian victories. The destruction of Force K ended a nightmare period for the Italian convoys, while Alexandria allowed the Axis to achieve preeminence in the central Mediterranean. The pinnacle was the second Sirte battle, defined as an Italian victory—correctly reversing the judgment of some British naval historians. Also, according to O'Hara, the battle proved that the Italian surface fleet was a credible deterrent, discouraging further British attempts to resupply Malta (p. 254). Yet while the author's conclusion that second Sirte was an Axis victory is persuasive as far as the destruction of the enemy convoy goes, it is not so with respect to its consequences. The action did not discourage further British attempts to resupply Malta; instead, it encouraged the Royal Navy to think that light surface forces were sufficient to meet the Italian fleet, preparing the way for the disaster of HARPOON-VIGOROUS in June 1942.

Here the major shortcoming of the book becomes apparent: not putting the Italian actions into the

broader context of the Mediterranean naval war. If that war's object was communications, the Germans achieved the majority of the tactical successes that produced operational and strategic consequences. Even according to O'Hara's data, 82 percent of Allied losses during the period of *Six Victories* resulted from German actions (p. 259). Second Sirte is a clear example of this; the delay the Italian surface forces imposed was not decisive, because it was German aircraft that sank the enemy ships. Despite this, O'Hara concludes that the three Italian victories led to Axis maritime control of the central Mediterranean up to November 1942, broken only by the coming of American naval reinforcements (p. 257).

This conclusion is not convincing. First, it seems to confound surface predominance with maritime control. During summer–fall 1942, intelligence, air, and underwater predominance—critical elements of maritime control during World War II—were in the hands of the British, enabling them to disrupt Axis communications despite enemy surface predominance. Second, this trend already was emerging during the first period considered by *Six Victories* (fall 1941). Current Anglo-American and Italian scholarly work agrees that the increased security of Axis transports during early 1942 depended on the decline of Malta as an operative base, itself caused by increasing German air attacks. O'Hara seems unable to shake this argument, because he only identifies a chronological connection in the improved situation of the Axis convoys after the three Italian victories (p. 127), possibly mistaking correlation for causation. Surface preponderance, the main result of the Italian victories, could not stop air and submarine attacks against Axis convoys, Britain's primary weapons against enemy communications, which indeed regained their momentum when German airpower shifted from the central Mediterranean to assist Rommel.

In conclusion, O'Hara's book offers a detailed reconstruction of the naval actions described, deserving credit for proving that the effectiveness of the Italian navy at a tactical level was better than Anglo-American studies usually have acknowledged. Less convincing is the analysis of the operational and strategic consequences of the six "victories," owing to an overemphasis on surface warfare, which was only a part—and possibly not the most important one—of the Mediterranean naval scenario in 1941–42. Readers searching this book for lessons relevant to modern antiaccess warfare will need to bear this in mind.

FABIO DE NINNO

On War and Politics: The Battlefield inside Washington's Beltway, by Arnold L. Punaro, with David Poyer. Annapolis, MD: Naval Institute Press, 2016. 249 pages. $29.95.

On War and Politics is a remarkable autobiography. It explores the life and professional careers of Arnold L. Punaro, a U.S. Marine Corps Reserve (USMCR) major general and congressional insider; it also is a remarkable portrayal of the day-to-day workings of Congress and the Pentagon, so it will appeal to a broad range of readers interested in national-security affairs. Punaro spent over thirty-five years as a USMCR officer and worked closely with the chairman of the Senate Armed

Services Committee, Senator Samuel A. Nunn Jr. (D-GA), for almost twenty-four years. Nunn played an important role in almost every major piece of defense legislation and understood the intricacies of power politics inside the Beltway.

Punaro grew up a devout Roman Catholic, and as a young boy entered the seminary to become a priest, but eventually left and attended Spring Hill College for his undergraduate degree. On graduation, he started talking to military recruiters to avoid the draft, because his father warned him, "You don't want to get drafted. You'll go to Asia as an infantryman, and there's nothing grand and glorious about war" (p. 18). Punaro was particularly impressed by the sharp uniform the Marine recruiter wore, so he decided to join the Corps.

Punaro's dry wit and sense of humor are evident throughout the book. Describing his experiences during Officer Candidate School (OCS) at Quantico, he writes, "After being shouted into a haphazard queue, I began my introduction to the three eternal truths in the military: hurry up and wait, endless paperwork, and constant changes to 'the word.'" Punaro excelled at OCS and the Basic School, and after graduation got his "dream job": orders to Vietnam as an infantry platoon leader.

Punaro's combat tour in Vietnam shaped the course of his subsequent life. Punaro starts the book with an incident in which he almost died. "None of us would come back the same. Some wouldn't come back at all, especially from my area of operation, which held the dubious distinction of having the most casualties of any in the combat zone" (p. 26). Punaro learned well the leadership lessons of an infantry platoon leader in Vietnam. "We grew to respect each other, and my Marines gained confidence in my leadership for two primary reasons: I never got lost, and they knew that I wouldn't put them in more danger than absolutely necessary" (p. 50).

After nearly four months in Vietnam—almost all in the field—Punaro was seriously wounded. One of his fellow Marines, Corporal Roy Lee Hammonds, attempted to help Punaro but was killed in the firefight. "I had no doubt that the bullets that had torn through his protective gear would have ripped me to shreds had he not thrown himself between me and the snipers" (p. 55). Punaro was medevaced to a naval hospital in Okinawa. He always has remembered Hammonds's actions that day.

On his return from Vietnam, Punaro was assigned to Marine Corps Base Quantico and became involved in planning social events for the training battalion. His wit and humor show when he describes the art of doing so in cooperation with officers' wives. "It was an early lesson in Washington ways: if you don't mind kissing some butts, you can go far" (p. 62).

After leaving the active-duty Marine Corps, Punaro entered the University of Georgia's Grady School of Journalism. He excelled in his graduate studies and was offered a job with Senator Nunn. "Little did I know that I was signing up for a decade's tour on Nunn's personal staff, and then another fourteen years on the Armed Services Committee[—]nearly a quarter-century with the Senate and the senator, in one way or another" (p. 72).

Punaro weaves a tapestry of crucial events in our nation's history through different presidencies—those of Carter, Reagan, Bush I, Clinton, and Bush II—with details available only from a congressional insider. Moreover, he gives the reader a front-row seat

on the development of American national security under each of these presidents. "As we wrapped up eight years of a defense buildup and both positive and negative developments, from Iran-Contra to the Gorbachev era, we thought we had seen it all. But we could not imagine the tumult the next years would bring" (p. 150).

Perhaps the best chapter is the last: "Lessons Learned." Punaro provides a short synopsis of important lessons learned throughout his illustrious careers in the military, the Senate, and private business. These are lessons distilled after a lifetime spent in leadership positions and working with other great leaders. He writes, "If today's leaders could find the courage to apply these, they would be well on their way to solving most of today's legislative gridlock, finger pointing, and failure to act on even the most pressing issues" (p. 209).

The book is much more than a collection of autobiographical anecdotes. Punaro and his coauthor provide keen insights on important national-security issues in our nation's history that many of us have never heard before, told from a Washington insider's perspective. This book is a must-read for young military officers. I wholeheartedly recommend it.

THOMAS J. GIBBONS

"I Am Determined to Live or Die on Board My Ship": The Life of Admiral John Inglis; An American in the Georgian Navy, by Jim Tildesley. Kibworth Beauchamp, U.K.: Matador, 2019. 561 pages. £19.99.

This five-hundred-page biography is longer than many devoted to the world's most famous admirals. One has to search quite carefully in the literature on the Royal Navy during the American Revolution and the wars of the French Revolution to find even a passing reference to John Inglis (1743–1807). During his forty-two years of active naval service, Inglis reached the coveted rank of post captain. Following his retirement from active service in 1799, he rose by seniority up the ranks of "yellow" half-pay admirals, eventually becoming a vice admiral.

The author of this work, Jim Tildesley, former director of the Scottish Maritime Museum, has unearthed—with admirable diligence, in more than twenty archives in England, Scotland, and the United States—the documentary evidence of Inglis's life. The result of many years' labor, Tildesley's book provides a fascinating and lucid account that serves as a valuable case study of a diligent and successful naval officer who retired as a captain.

From other historians, we know that two-hundred-some captains were serving in the fleet during Inglis's career, and only a small percentage of them could rise to flag rank on active service; then, as now, reaching the rank of captain meant that an officer had had a typical successful career. Thus, Inglis is part of a significant group of career naval officers worthy of study.

Tildesley follows Inglis's life and career, seemingly using every scrap of paper that relates to him, his family, and his ships, from log- and muster books to municipal tax records as well as newspapers, estate records, letters from family friends and acquaintances, and a wide range of official reports. The result is a remarkably complete view of an ordinary naval captain's life.

Despite being part of a large organization, captains have distinctive careers and different experiences within the broad range of activities that define naval service. From the outset, John Inglis was somewhat different, having been born in 1743 at Philadelphia, Pennsylvania, then the world's third-largest English-speaking city, after Bristol and London. John was the son and namesake of a wealthy Philadelphia merchant, slave trader, and slave owner. His father was born in Edinburgh, Scotland, and settled in Pennsylvania in 1730, after a period as a merchant at Nevis in the West Indies.

Young John joined the Royal Navy at age fourteen in 1757, as an aspiring officer in the frigate *Garland,* commanded by the notoriously ineffective future admiral Captain Marriot Arbuthnot. Young Inglis soon deserted his ship, but family connections to the three sons of Sir Gilbert Elliot of Minto in the Scottish Borders resurrected his career prospects. The eldest of the three Elliot brothers inherited the family's Scottish estates and became a member of Parliament and a Lord of the Admiralty; the second became a wealthy merchant in Philadelphia and married John Inglis's mother's sister; and the third was a naval officer in his first command.

This last took John Inglis on board and rated him a master's mate, a typical rating for an aspiring officer. Within a few weeks, Inglis saw his first fleet operations as part of Admiral Sir Edward Hawke's squadron in the Bay of Biscay. Quickly promoted to midshipman, Inglis remained with Elliot as he moved to a new command and was with him during his successful capture in the Irish Channel of the French privateer squadron under François Thurot in 1760. In 1761, fully trained by Elliot, Inglis took his examination and was commissioned a lieutenant, then followed Elliot to the Mediterranean as fourth lieutenant in the seventy-gun *Chichester*.

Inglis's career touched on several naval operations that have a broader interest beyond his career. Tildesley's detailed accounts of these events often provide valuable new information based on documentary evidence. They include coverage of Inglis's first command, in 1768, of the eight-gun schooner *Sultana*—a replica of which was built in Maryland in 2001—and his service in that ship enforcing the Navigation Acts. This included operations in Chesapeake Bay, where he met Colonel George Washington, and later the notorious smuggling operations in Rhode Island's Narragansett Bay. While in command of *Sultana,* Inglis was professionally interested in law enforcement and became one of the subscribers to the first American edition of Blackstone's *Commentaries*. Later, Inglis was in command of a ship during the mutiny at the Nore. He participated in the battle of Camperdown and was involved with an attempt to persuade the Dutch warships under Van Dirckinck to defect to the British in 1796.

Tildesley's study of Captain John Inglis is a notable addition to the literature. His work complements recent studies, such as Hilary Rubinstein's *Trafalgar Captain: Durham of the* Defiance; *The Man Who Refused to Miss Trafalgar* (2005), Victor T. Sharman's *Nelson's Hero: The Story of His "Sea-Daddy," Captain William Locker* (2005), and Bryan Elson's *Nelson's Yankee Captain: The Life of Boston Loyalist Sir Benjamin Hallowell* (2008). In his work, Tildesley breaks away from the Nelson-Trafalgar focus and gives

a new, illuminating insight through this case study of a captain's career.

JOHN B. HATTENDORF

The Greek Genocide in American Naval War Diaries: Naval Commanders Report and Protest Death Marches and Massacres in Turkey's Pontus Region, 1921–1922, ed. Robert Shenk and Sam Koktzoglou. New Orleans: Univ. of New Orleans Press, 2020. 400 pages. $24.95.

Living in an information-saturated world in which social media and ubiquitous cell phone use allow the worst atrocities of war to be livestreamed on a global scale in a matter of hours can make it hard for us to understand a time not so long ago when acts of senseless violence were obscured by long distances and the fog of war.

In the aftermath of the First World War, the Ottoman Empire disintegrated into a bloody intercommunal conflict between millennia-old Greek communities along the Black Sea and a new nationalist Turkish government. There to witness it was the U.S. Black Sea Fleet, which was tasked with maintaining the security of American interests, primarily relating to tobacco companies and U.S. relief workers, in the Turkish hinterland during the Greco-Turkish War. As neutral observers (the United States never declared war on the Ottoman Empire, despite its alliance with the Central Powers), the fleet used this network of contacts to report on allegations of ethnic cleansing and forced population removal. While the plight of the Ottoman Empire's Greek population on the Ionian coast during the great fire of Smyrna in 1922 is covered well in previous scholarship, editors Robert Shenk and Sam Koktzoglou shed additional light on the fate of the Pontic Greek communities of the Black Sea coast, using the U.S. Navy as the narrator.

The bulk of *The Greek Genocide in American Naval War Diaries* uses condensed accounts from the war diaries deposited in the National Archives of American destroyers based on the Pontic coast to build a body of compelling evidence of wartime atrocities. Shenk, who previously has written more broadly on the region in *America's Black Sea Fleet,* and Koktzoglou highlight the challenges naval officers faced in discerning the ground truth in a wartime environment in which sea power stopped at the shoreline. The accounts capture the conflicting narratives heard, the incomplete information available, and the sense of impotence felt by U.S. naval officers with no sanction to intervene.

Using the naval war diaries as the backbone of the narrative and supplementing them with testimony from American businessmen and aid workers, Shenk and Koktzoglou make the case that elements of the Turkish government were involved in a direct effort to carry out what is defined in the modern era as *genocide* against the Greeks of the Pontus region. The war diaries detail a series of forced removals of the military-age males of the local Greek population conducted by Turkish forces, often resulting in reports of mass killings. Furthermore, the naval diaries present accounts brought by internally displaced persons and American aid workers from the interior of Anatolia detailing the wholesale destruction of Greek villages, ethnic cleansing, and mass rape. Coupled with these stories are discussions with Turkish government officials outlining their justifications for such extreme tactics, as well as the uncertainties USN officers

faced regarding the true extent of the killings and Turkish motivations. Some of the accounts from survivors of the mass killings and rapes are not for the faint of heart, and underscore the sense of powerlessness felt by the commanders of the Black Sea Fleet, who, despite their possession of state-of-the-art weapons of war, could do little to stop the chaos.

That is not to say that USN officers stood by and did nothing. The war diaries provide several portraits of heroism by officers attempting to avert further bloodshed and the great professional risks some destroyer captains incurred. One account in particular highlights the power one officer can have when compelled by humanitarian virtue. Captain Arthur L. Bristol Jr. of USS *Overton* risked his future career prospects by sending a well-timed letter to compel his commanding officer, Admiral Mark Bristol (no relation)—who had a well-known affinity for the nationalist government—to issue a formal complaint to Mustafa Kemal Atatürk over the planned forced removal of noncombatants. This likely spared the lives of twelve thousand Greek women and children. In multiple accounts, we see naval commanders struggling to define actions and concepts for which they had no words: *genocide, ethnic cleansing,* and a nascent sense of *the responsibility to protect*. We witness in these accounts the internal struggle of U.S. naval officers caught between the promise of America's new global role and the limits of that promise. *The Greek Genocide in American Naval War Diaries* is a compelling, primary-source resource for scholars seeking to understand the human face of sea power in the twentieth century.

MICHAEL IMBRENDA

"Vincere!": The Italian Royal Army's Counter-insurgency Operations in Africa, 1922–1940, by Federica Saini Fasanotti. Annapolis, MD: Naval Institute Press, 2020. 224 pages. $44.

Most military historians are familiar with the colonial histories of Spain, France, Italy, and Great Britain on the North African littoral (along with Belgium in the Congo, as well as Germany and Portugal in southwest and southeast Africa). This recent work considers in detail the experience of one of these participants as it appears from eighty years of retrospection. With a title that can be read as *conquest* or *victory,* the book deals with the timely topic of low-intensity conflict in Africa in the first part of the twentieth century by a European power: Italy's Royal Army in Libya and Ethiopia (or the Kingdom of Abyssinia). These were campaigns fought to pacify the coastal regions and interior. It is not a surprise—with success in the global war on terrorism and the "Long War"—that something is familiar in these colonial campaigns fought within the same locations, terrain, and populations as today's. Yet while tactics, techniques, or procedures might be similar, the policy and strategic goals were very different, as were the actual results of the conflicts.

The study divides logically into two stand-alone parts, the 1922–31 campaign in Libya and the 1936–40 campaign in Ethiopia. Introductions and conclusions provide context for each campaign; sections on acronyms and personalities, as well as glossaries and notes, support the narrative. The well-written narrative also provides after-action lessons that are of interest to current efforts in the region. One theme

from these campaigns is that the army and air force units that conducted initial offensive operations had to be replaced by locally raised forces to perform subsequent pacification and occupation duties. This required leaders with language and cross-cultural skills prepared for a long commitment to their assigned theater. In both campaigns, firm defensive bases and mobile columns were used in conjunction with rudimentary mechanization and air support that matured as the campaigns continued—all experiences similar to those of the U.S. Marines in the small-war era.

Saini Fasanotti earned a PhD at the University of Milan and is a senior visiting fellow at the Brookings Institution, Washington, DC. This is her fifth book, here translated (with only a few anomalies) from the Italian by Sylwia Zawadzka. Based on Saini Fasanotti's ten years of study in Italian archives and on-the-ground research, *"Vincere!"* provides original insights that even now will be of interest to those responsible for these regions. It serves as an example of applied history that can be a practical tool to inform policy, tactics, procedures, and techniques in more-contemporary operations.

CHARLES D. MELSON

OUR REVIEWERS

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IN MY VIEW

RESPONSE TO "PEAK OIL, PROGRESSIVISM, AND JOSEPHUS DANIELS, 1913–21," BY ROGER STERN, *NAVAL WAR COLLEGE REVIEW* 73, NO. 4 (AUTUMN 2020), PP. 139–66.

Sir:

In his article, Dr. Stern describes "the management of an imaginary oil-scarcity crisis by Secretary of the Navy Josephus Daniels." He attributes it to claims by Interior Department scientists that the United States soon would run out of oil and to the Progressive "ideology" of using the power of the federal government to mitigate or eliminate actual or "ostensible" crises (p. 139).

Readers owe Dr. Stern thanks for digging into this issue, especially for his use of the papers of Mark L. Requa. Requa directed the "oil section of a wartime agency called the U.S. Fuel Administration" (p. 147) and served as a sort of liaison officer for the Petroleum War Service Committee, "a voluntary body composed of industry executives" (p. 146).

However, readers also deserve to have a clearer idea of what Secretary Daniels was thinking. In testimony to the Committee on Naval Affairs of the House of Representatives on 29 January 1914, Daniels revealed that he had been influenced by a statement made in the British Parliament by Winston Churchill, the First Lord (civilian head) of the Admiralty. Daniels quoted at length from Churchill's statement, in which the First Lord had explained to the House of Commons why the Royal Navy was switching from coal to oil, and therefore why the British government needed to have a reliable, secure source or sources of fuel oil.

As Churchill noted, oil-burning warships could sustain a higher speed than could coal-burning ones. In addition, for the same weight of fuel, oil gave the Royal Navy's ships greater range. Oil-fired ships also were much easier to refuel, and it took many fewer sailors to tend and maintain their boilers. In sum, "there is one great special advantage which oil confers upon the British fleet which would not be enjoyed by any weaker naval power—I mean the special advantage to the strongest navy of not being forced to leave its fighting position in order to refuel."[1]

After explaining the advantages of oil fuel and the need to stockpile it in quantity, Churchill turned to the issue that both the British and the American governments faced: price. The oil producers primarily were private firms; as such, they responded to changes in supply and demand in the petroleum market by adjusting the price of fuel oil and other petroleum products. What these firms wanted and needed was the flexibility that an open market gave them. However, what many major consumers of petroleum products wanted was price stability; to get it, they negotiated long-term supply contracts. The result, explained Churchill, was "that the oil market in future years is going to be greatly divided up and pegged out among different consumers," which made the policy of relying on annual procurement contracts high risk. As he said, "Our stake in oil-burning ships is becoming so important that we must have the certainty of being able to buy a steady supply of oil at a steady price."[2]

The oil producers needed market flexibility; the Royal Navy needed the certainty of an affordable supply. How could these different positions be reconciled? Churchill's proposed solution to this problem had several parts. One part was that "the admiralty should become the independent owner and producer of its own supplies of liquid fuel." As he put it to the Commons, "I do not myself see any reason why we should shrink, if necessary, from entering this field of State enterprise." Another part was "that we must become the owners or, at any rate, the controllers at the source, of at least a proportion of the supply of natural oil which we require."[3] Was this socialism? No. "[W]e are moving toward that position of independence outside the oil market which is our ultimate policy to secure." After all, if the Royal Navy's dockyards provided a "check on private constructors," why could not the Royal Navy act to guarantee a reasonably priced supply of oil fuel for its ships?

These arguments by Churchill were the same basic arguments that Daniels gave to the House Naval Affairs Committee. Indeed, the fact that the Royal Navy was acting to secure a supply of oil was reason enough for Daniels to want to secure as-yet-untapped oil supplies in California. Churchill had told the House of Commons, "We are, or soon shall be, able to draw oil from Burmah [*sic*], California, Persia, Texas, Roumania [*sic*], Borneo, Egypt, Mexico, and Trinidad."[4] Daniels did not want to risk being unable to draw on California oil; he did not dare place the Navy in the position of having to go hat in hand to the British to purchase oil at exorbitant prices from sources they controlled.

The U.S. Navy was shifting to oil from coal before Daniels was confirmed as the Secretary of the Navy—and even before the British made the decision to switch to oil themselves.[5] Daniels therefore found himself in the position of trying to meet a rising demand for oil from the Navy—his Navy—while watching other major consumers negotiate long-term contracts with producers. As Churchill

understood, the problem was not just the availability of oil; it was also the price. Daniels could foresee a situation in which the high price of oil could constrain not only the ability of the U.S. fleet to deploy but even its size. Churchill had laid out a plan that could serve as a model to head off this potential crisis.

Daniels laid Churchill's comments before the House Naval Affairs Committee in January 1914 so the committee's members could think about what the British government was doing. In August 1917, Congress passed the Food and Fuel Control Act (PL 65-41), giving the federal government the authority to control the distribution of food products and fuel. As Dr. Stern pointed out in his article, that was the legal basis for Secretary Daniels's efforts to place some California oil off limits to foreign purchasers.

As Dr. Stern argued, Secretary Daniels may have acted during and immediately after World War I on the basis of incorrect scientific advice to secure California oil supplies for the U.S. Navy. However, I believe that the evidence shows that what also prompted him to take this action was less a "Progressive" ideology than a sincere desire to protect the Navy from a form of price gouging. Daniels watched what the Royal Navy was doing and understandably chose to follow its lead in controlling sources of oil.

TOM HONE

NOTES TO MR. HONE'S LETTER

1. *Hearings before [the] Committee on Naval Affairs of the House of Representatives on Estimates Submitted by the Secretary of the Navy, 1914,* 63rd Cong., p. 671 (1914) (statement of Josephus Daniels, Secretary of the Navy), quoting Winston Churchill.
2. Ibid., p. 672.
3. Ibid.
4. Ibid., p. 671.
5. See Norman Friedman, *U.S. Battleships: An Illustrated Design History* (Annapolis, MD: Naval Institute Press, 1985), pp. 104–105.

REFLECTIONS ON READING

Professor John E. Jackson of the Naval War College is the Program Manager for the Chief of Naval Operations Professional Reading Program.

Since 2006, the President of the Naval War College has functioned as the executive agent for the Chief of Naval Operations Professional Reading Program (CNO-PRP). The dean of the College of Distance Education has provided oversight, with this author serving as the program manager. (The Reflections on Reading article that appeared in the Winter 2021 issue of the *Naval War College Review* detailed how a new slate of book titles was generated recently for the CNO's consideration.) After a review of recommendations and the incorporation of additional input, on 23 February 2021 CNO Admiral Michael M. Gilday, USN, released his update to the CNO-PRP. The updated book list can be found on the CNO-PRP website at www.navy.mil/CNO-Professional-Reading-Program. Portions of the following text are adapted from the Navy press release that announced the launch of the new program.

The goal of the program is to help sailors extend their personal and professional development beyond their primary designators and ratings. "It is critically important for our Navy to be a learning organization," said Gilday. "One of the very best ways to do that is to foster an environment where every Sailor deepens their level of understanding, learning, and leadership skills. That's why this book list is so important. . . . Make no mistake, to outthink our competitors today, we must study and apply lessons we've learned from our past."

With a motto of "Read well to lead well," this updated reading list aims to do the following:

- Enhance professionalism and improve critical thinking skills
- Foster a deep appreciation for naval and military history and heritage
- Increase knowledge of joint war fighting and strengthen sailors' ability to make sound judgments

- Develop a greater appreciation of the views of others and a better understanding of our changing world
- Encourage discussion about the maritime profession and the ever-evolving role of sea power in this day and age

The CNO-PRP list includes fifty-three titles organized into four key lines of effort: Readiness, Capabilities, Capacity, and Sailors. Additionally, the works are subdivided into tiers—foundational, advanced, and capstone—indicating which books are most appropriate during the various stages of a sailor's career.

Master Chief Petty Officer of the Navy (MCPON) Russell Smith identified twenty-one additional books as suggested reading. "Reading is a fundamental staple in the growth and development of any leader," said Smith. "For this list, the titles included were methodically chosen in order to provide a specific focus on targeted areas for reinforcement, a focus that will provide enlisted Sailors the greatest benefit given our role in the organization. A focus on team dynamics, seeking innovative solutions, leveraging the incredible strengths inherent in the diversity of our enlisted force, and the virtues of altruistic service to a cause greater than ourselves—these are the things that enable the enlisted force to execute the vision of our commanders, leading to unit success and our Navy prevailing in combat when called upon."

Together, the CNO and MCPON lists offer a variety of writing categories and genres. They include works of fiction and nonfiction, and span topics ranging from the expressly military to strategy, management, technology, and more.

Most of the seventy-four books are available at no cost to sailors in both e-book and digital-audio formats from the Navy MWR digital library collection. Directions on how to sign up for an account and access these books are available at the CNO-PRP website, and eligible patrons can download the books at www.navymwrdigitallibrary.org.

By design, some of the recommended books may be considered a bit controversial. Gilday has written, "While I do not endorse every viewpoint of the books on this reading list, I believe exposure to varied ideas improves the critical thinking skills of our sailors."

The fifty-three titles in the CNO's portion of the newly revised, fifth iteration of the CNO-PRP and their respective authors are as follows:

Army of None	Paul Scharre
Artificial Intelligence Basics	Tom Taulli
A Brief Guide to Maritime Strategy	James R. Holmes
Burn-In	P. W. Singer and August Cole
The Character Gap	Christian Miller

Deep Thinking	Garry Kasparov
The Dichotomy of Leadership	Jocko Willink and Leif Babin
Ego Is the Enemy	Ryan Holiday
The End of Grand Strategy	Simon Reich and Peter Dombrowski
Fearless	Eric Blehm
Fed Up	Gemma Hartley
The Fifth Domain	Richard A. Clarke and Robert K. Knake
The Fleet at Flood Tide	James D. Hornfischer
Fleet Tactics and Coastal Combat	Wayne P. Hughes Jr.
Fortune Favors Boldness	Barry M. Costello
The Future of Violence	Benjamin Wittes and Gabriella Blum
The Future of War	Lawrence Freedman
Genius Weapons	Louis A. Del Monte
Ghost Fleet	P. W. Singer and August Cole
The (Honest) Truth about Dishonesty	Dan Ariely
How to Be an Antiracist	Ibram X. Kendi
Human Compatible	Stuart Russell
The Inevitable	Kevin Kelly
The Infinite Game	Simon Sinek
Just and Unjust Wars	Michael Walzer
The Last Stand of the Tin Can Sailors	James D. Hornfischer
The Leader's Bookshelf	James Stavridis and R. Manning Ancell
Leaders Eat Last	Simon Sinek
Matterhorn	Karl Marlantes
Military Ethics	George Lucas
Mindset	Carol S. Dweck
Neptune's Inferno	James D. Hornfischer
The New Jim Crow	Michelle Alexander
The New Rules of War	Sean McFate
The Next 100 Years	George Friedman

No Ordinary Disruption	Richard Dobbs et al.
No Pity	Joseph P. Shapiro
One Nation under Drones	John E. Jackson
Our Robots, Ourselves	David A. Mindell
The Perfect Weapon	David E. Sanger
Red Star over the Pacific	Toshi Yoshihara and James R. Holmes
The Road to Character	David Brooks
Sea Power	James Stavridis
Seapower	Geoffrey Till
The Second Most Powerful Man in the World	Phillips Payson O'Brien
Sexual Minorities and Politics	Jason Pierceson
Six Frigates	Ian W. Toll
Start with Why	Simon Sinek
A Tactical Ethic	Dick Couch
Tiny Habits	B. J. Fogg
Toward a New Maritime Strategy	Peter D. Haynes
We Can't Talk about That at Work!	Mary-Frances Winters
What It Is like to Go to War	Karl Marlantes

The next Reflections article will highlight the twenty-one books in the MCPON's suggested reading list. As the CNO and MCPON say: "Read well to lead well"!

JOHN E. JACKSON